DOCUMENT RESUME

ED 122 162 CE 007 225

AUTHOR	Fairchild, Charles K.
TITLE	Development of Performance Standards for Employment Service. Volume 2: Part A. Findings and Recommendations.
INSTITUTION	Shelley (E. F.) Associates, Inc., Washington, D.C.
SPONS AGENCY	Manpower Administration (DOL), Washington, D.C. Office of Research and Development.
REPORT NO	DLMA-20-36-74-22-2
PUB DATE	1 Aug 75
CONTRACT	DL-20-36-74-22
NOTE	72p.; For related documents, see CE 007 224-227, Part B, statistical appendixes, were not submitted for inclusion with the document
AVAILABLE FROM	National Technical Information Service, Springfield, Virginia 22161 (No price given)
EDRS PRICE	MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS	Cost Effectiveness; *Employment Services; Evaluation Criteria; Job Analysis; *Job Placement; *Management Systems; Models; *Performance Criteria; Performance Factors; Productivity; *Standards; Statistical Analysis
IDENTIFIERS	*Balanced Placement Formula; BPF

ABSTRACT

The objective of the project was to develop methods for establishing output and input performance standards for the placement and placement support functions of the United States Employment Service (ES). Volume 2, Findings and Recommendations, reports substantive findings and recommendations developed during the course of the project. A key recommendation is that performance standards be used in an Integrated Management System context, in conjunction with planning, budgeting, evaluation, and diagnostic tools to improve overall performance. The volume presents findings from an intensive analysis of the internal structure of the Balanced Placement Formula (PBF), the ES performance-based budgeting tool; findings from analysis of the efforts of external economic, policy, and law factors on ES performance; and findings from field tests of data collection and analysis methods to be used for establishing ES input standards. (Author)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ERIC

CE

MAR 15 1976

ED122162

VOLUME 2

FINDINGS AND RECOMMENDATIONS

DEVELOPMENT OF PERFORMANCE STANDARDS FOR ES

PART A

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Prepared by

E. F. Shelley and Company, Inc.
1730 Rhode Island Avenue, N. W.
Washington, D. C. 20036

Dr. Charles K. Fairchild
Project Director

August 1, 1975

This report was prepared for the Manpower Administration, U. S. Department of Labor, under research and development contract No. 20-36-74-22. Since contractors conducting research and development projects under Government sponsorship are encouraged to express their own judgement freely, this report does not necessarily represent the official opinion or policy of the Department of Labor. The contractor is solely responsible for the contents of this report.

CE007225

BIBLIOGRAPHIC DATA SHEET	1. Report No. DLMA 20-36-74-22-2	2.	3. Recipient's Accession No.

Title and Subtitle

DEVELOPMENT OF PERFORMANCE STANDARDS FOR EMPLOYMENT SERVICE
Volume 2
Findings and Recommendations

5. Report Date
August 1, 1975

6.

Author(s)
Dr. Charles K. Fairchild

8. Performing Organization Rept. No.

Performing Organization Name and Address

E. F. Shelley and Company, Inc.
1730 Rhode Island Avenue, N. W.
Washington, D. C. 20036

10. Project/Task/Work Unit No.

11. Contract/Grant No.
DL 20-36-74-22

Sponsoring Organization Name and Address
U.S. Department of Labor
Manpower Administration
Office of Research and Development
601 D Street, N.W., Washington, D.C. 20213

13. Type of Report & Period Covered
Final 5/14/74 - 5/15/75

14.

Supplementary Notes

16. Abstracts

The objective of the project was to develop methods for establishing output and input performance standards for the placement and placement support functions of the United States Employment Service (ES). Volume 2, Findings and Recommendations, reports substantive findings and recommendations developed during the course of the project. A key recommendation is that performance standards be used in an Integrated Management System context, in conjunction with planning, budgeting, evaluation and diagnostic tools to improve overall performance. The volume presents findings from an intensive analysis of the internal structure of the Balanced Placement Formula (BPF), the ES performance-based budgeting tool; findings from analysis of the efforts of external economic, policy and law factors on ES performance; and findings from field tests of data collection and analysis methods to be used for establishing ES input standards. Detailed statistical appendices are included.

Key Words and Document Analysis. 17a. Descriptors

Performance Evaluation, Placement, Productivity, Cost-Effectiveness, Economic Models, Job Analysis, Questionnaires, Statistical Analysis, Statistical Samples.

Identifiers/Open-Ended Terms

United States Employment Service (USES), Performance Standards, Balanced Placement Formula (BPF)

17c. COSATI Field/Group 5A, 5C, 5I, 14A

Availability Statement Distribution is unlimited. Available from National Technical Information Service, Springfield, Va. 22151.	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 214
	20. Security Class (This Page) UNCLASSIFIED	22. Price

TABLE OF CONTENTS
VOLUME 2

Page

CHAPTER I

INTEGRATED MANAGEMENT SYSTEM FOR THE ES

A. Theory of Integrated Management System 1
B. Assessing Output Performance 2
C. Assessing Input Performance 3
D. Planning for Improvement 4

CHAPTER II

FINDINGS FROM RESEARCH INTO THE BALANCED PLACEMENT FORMULA AND IMPLICATIONS FOR OUTPUT STANDARDS FOR THE EMPLOYMENT SERVICE

A. Introduction 7
B. Overview of the Balanced Placement Formula 10
C. Analysis of Internal BPF Performance Measures and Structure 12
D. Analysis of the Effects of External Factors on ES Performance 32
E. Interpretation and Recommendations 40

Appendices

CHAPTER III

FINDINGS RELATIVE TO THE DEVELOPMENT OF INPUT STANDARDS

A. Theory of Performance Standards for the ES 45
B. Significant Survey Findings 48
C. Reference Charts of Compiled Survey Data 63
    1. Summaries of Data for LO's Visited 65
    2. LO Summary for each LO(19) Visited 69
    3. Activity Summary for each ES(13) Activity Reviewed 109

Preface

This Volume contains the results of the field work and analysis under this contract. It also contains a description of an integrated management system which we believe provides the proper conceptual framework for relating output standards to the inputs and other internal ES factors. Our findings have led us to conclude that only an integrated approach should be used in further development of BPF (output) type measure and performance standards (inputs). Chapter one sets the stage by describing and illustrating the relationship of outputs and inputs within the conceptual framework. Chapters two and three present detailed findings of our project.

Chapter I

INTEGRATED MANAGEMENT SYSTEM FOR ES

A. Theory of Integrated Management System

As a result of our investigations of the Balanced Placement Formula and the surveys for developing a methodology to establish Performance Standards we have concluded that an additional product should be developed for integrating these two management tools and several others in a unified system.

The cornerstone for such a system is a method for estimating ES placement potential at the labor area level, for setting output performance standards or norms, for measuring output performance against the standards, and for compiling a summary performance score similar to that now computed via the BPF at the state level.

The results of such a methodology would be used in two ways. First, for funding allocation purposes, a state composite score would be calculated via a weighted summation of labor area scores, and the state allocation of funds would be performance-adjusted based on the state's deviation from its own internal performance norms, instead of a national average. Second, the methodology would identify poor performing areas within a state that need special attention.

A number of diagnostic tools currently under development and testing could be utilized to identify possible causes of poor performance in the labor area. The handbook for location of ES local offices could help to assess the appropriateness of current locations and the need to close, move or open offices. The Handbook for Analyzing Local ES Performance, developed under this contract, provides tools for analyzing local office resource utilization, service ratios and key quality factors, and the Methodology Guide for Establishing Input and Output Standards may lead to specific numeric standards for utilization of input resources. The Management Audit Survey developed by IBRIC could be used to identify specific weaknesses in management practices.

Each of these tools should be integrated into the existing self-appraisal process and used along with other existing tools to identify potential causes of poor performance and to develop a corrective action plan, through intelligent use of analysis results in light of the real constraints and needs of the specific labor area.

6.

At this level of organization, management is often carried out by a single individual who is required to balance the needs of several programs and systems which are separately administered at the state and national level. Conflicts between separate systems and programs can create severe problems for such local managers. When programs and systems have been integrated, thereby preventing the ES from being in conflict with itself, these local managers work most efficiently. This requirement is particularly important in the design of management systems for raising efficiency. Only an integrated non-conflict management system can combine the incentives for producing placements, expressed by the Balanced Placement Formula, with the diagnostic and prescriptive features of the Performance Standards Survey Methodology, the Management Audit System, the Self Appraisal System, and POSARS.

In the integrated management system we are envisioning here, these currently separate systems will be organized into a unified package of tools focused upon the problems and operations of the local manager. Information, derived from ESARS and Cost Accounting, will be fed back to the local manager to be used to diagnose performance. Based upon a "typology" of the labor area in combination with an estimating formula a "potential for placement" that applies to the local community will be established. This potential sets goals for the labor area and establishes a BPF that can be applied at that local level. The BPF score that reflects the local operation indicates whether improvements may be possible upon deeper analysis. The Performance Standards Survey and the Management Audit System are management tools that can be brought to bear in analyzing such local ES operations with an aim to improving performance. For example, the Handbook for Analyzing Local ES Performance describes model operations of the placement system which permit comparisons with actual operations. By using this comparison, local managers can pinpoint the components of the placement process that could be improved or modified.

B. Assessing Output Performance

In the integrated management system the assessment of output performance will be made by comparing actual performance against a potential for placement developed through an examination of the external factors in the local labor area. In Volume 3 (Methodology Guide) the details of this examination will be found. In concept, the labor area can be typed on the basis of a few significant external variables such as the total employment, and then its potential for placement estimated by a formula which accounts for additional external variables. The formula will be developed in the next major phase of the development of ES performance standards when data on many labor areas will be analyzed. The result of that development will be an estimating formula which yields a value for placements that an "average" labor area of each type would have, given the external factors that actually exist in any specific labor area. Actual placements achieved by the ES in the specific area can then be compared to this "potential" to give a local score (just as the BPF provides a State score). This local "BPF score" will indicate whether improvements may be possible upon deeper analysis. If such improvements seem possible, the deeper analysis will utilize tools such as the Handbook for Analyzing Local ES Performance, the survey techniques and analysis developed in this project.

C. Assessing Input Performance

Diagnosing the cause for discrepancy between actual and potential ES performance, the next step in this process, requires an assessment of input performance. When the integrated management system has been fully developed, a number of alternative tools for making the diagnosis will be available. We view the Handbook for Analyzing Local ES Performance, developed by this project, as the most important alternative. It will provide measures on three scales:

a. Resource allocation and efficiency.

b. Service percentages reflecting the extent of each placement component in the total service delivered by the ES.

c. A check on the key quality factors reflecting the conformance between the actual practices compared to the generally accepted way to carry out the placement process.

On each scale the actual performance will be compared to model measures for offices of the same type. Differences between these two (actual vs. model) will be examined to account for differences between potential and actual output performance. The validity of the model will be based upon the large survey planned for the next step (the establishment of input standards). High-performing labor areas are expected, in that survey, to exhibit similar patterns of measures and to thereby provide the models for the Standards. The examples in the next section illustrate the concept of this analysis. Two offices in our survey are compared instead of an actual office and a model. (Models cannot be developed until the large survey has been completed.)

D. Planning for Improvement

To illustrate the form in which the data can be analyzed and some potential uses of the data, Table 1 on the following page shows the results of applying the methodology to two local offices. Part A of the Table shows the percent of resources allocated to each category in the placement process. The categories were defined by the process described above and can be related directly to codes used in the official time-distribution system. (The alphabetic codes were developed and used in the data collection at the local office level to avoid confusion between time recording on the survey time ladders and time coding on the time distribution sheets.)

The local office manager has planning and budgeting standards of comparison for resource utilization and service ratios from the Plan of Service System and has data on performance per unit of resources from POSARS. Comparing the results of the survey with the data from official sources, the manager can compare his actual resource utilization and intermediate outputs with his plan, and can validate the official figures. He can also review the data on key quality factors for each activity against available (published or personal) standards of performance and identify staff training needs in the state-of-the-art.

The area manager or field supervisor, given data from several local offices, can compare input resource utilization with intermediate and final outputs to identify potential areas for correction. In the examples, LO 2 has a much lower number of monthly placements per equivalent staff position than does LO 1. LO 1 devotes relatively more resources to employer service and to file search and call-in, and less to application-taking and counseling. It has higher service ratios for referral interviewing, and a better rating on employer service quality factors. A field supervisor could use such comparative data, even in the absence of validated standards, to examine the causes of such differences, including the effects of external economic factors, etc., and to develop a plan for improving performance in the second local office.

This example illustrates the potential for applying such methods in the diagnostic process even on an interim basis. It also illustrates the potential pitfalls of applying validated standards. Input standards can be developed in accordance with the methodology and plans which will be a part of the end product of this

Table 1. Example of Data Compilation from On-Site Survey of 2 Local Offices

---

A. % Resource Allocation for Placement Process Component Activities

		LO#-1 (%)	LO#-2 (%)
AT	APPLICATION TAKING	8.1	14.5
CS	COMMUNITY SERVICE	4.0	0.6
CO	COUNSELING	2.1	11.0
ES	EMPLOYER SERVICE	6.1	2.2
FC	FILE SEARCH/CALL-IN	7.1	1.0
JD	JOB DEVELOPMENT	2.7	4.6
JIS	JOB INFORMATION SERVICE	1.5	2.1
JO	JOB ORDER TAKING	1.9	2.7
RE	RECEPTION	4.5	6.6
RC	REFERRAL CONTROL	4.3	0.3
RI	REFERRAL INTERVIEWING	9.8	11.3
TE	TESTING	2.5	0.1
VE	VERIFICATION/VALIDATION	2.0	1.3
Non-Placement Subtotal		43.2	41.7
*XC	CETA	0.0	1.6
*XE	EFS STUDY	0.5	1.0
*XF	CLERICAL	11.2	8.9
*XI	SICK	4.4	2.4
*XJ	JOB CORPS, FOOD STAMP, UI, ETC.	1.0	2.7
*XM	MEETING, TRAINING	6.6	0.4
*XS	SUPER., MANAGEMENT, ETC.	6.5	4.4
*XV	VACATION, ANNUAL LEAVE	5.8	5.0
*XX	PERSONAL, COFFEE BREAK, ALL ELSE	7.2	11.8

B. Selected Service Ratios (Percent of Traffic)

	LO#-1	LO#-2
Application Taking	44.0%	46.9%
Referral Interviews	60.5%	51.9%

C. Selected Quality Factors:

% Responding Employers Answering "YES"

	LO#-1	LO#-2
Does an ES representative contact you regularly?	75%	43%
When an ES representative visits you, does he/she appear to be knowledgeable of the current labor market?	93%	50%

	LO#-1	LO#-2
D. Monthly Placements per Equivalent Position	45.8%	28.6%

project, but such standards can never be used in a rote cookbook manner to prescribe changes in the organization or functioning of the ES. The need for such changes must always be identified on the basis of sub-standard output performance, and corrective plans must always take into account the specific realities and constraints of the individual labor area.

Chapter II

FINDINGS FROM RESEARCH INTO THE BALANCED PLACEMENT FORMULA AND IMPLICATIONS FOR OUTPUT STANDARDS FOR THE UNITED STATES EMPLOYMENT SERVICE

A. Introduction

> The broad objectives of the Employment Service are: (1) to provide service necessary to assist job seekers to obtain suitable employment, (2) to provide service to employers necessary to aid them to obtain qualified workers, (3) to provide technical services to employers to facilitate their hiring and use of veterans, disadvantaged, and other workers, and (4) to provide occupational and labor market information to job seekers and employers and to employer, labor, educational, manpower planning and other organizations and agencies in the community in need of such information.
>
> BPF Handbook for FY 1975, p. 1.

These broad objectives have existed throughout most of the history of the Employment Service (ES). The Balanced Placement (BPF) is a performance-based budgetting approach that attempts to allocate funds to state ES agencies in an equitable manner, based on the quantity and quality of their actual performance with respect to the objectives. First introduced in a limited way late in FY 1973, the BPF was expanded and used as the basic method for allocating Title III ES grants funds to the states in FY 1975 and, with research-based revisions, it is being used in FY 1976.

Although the concept of performance-based budgeting is generally accepted throughout the ES system, the application of the BPF in FY 1975 caused concern among the states, particularly those who lost funds, about the soundness and equity of the BPF. The concerns were of three types. First, do the performance measures in the BPF adequately measure ES performance in relation to the broad objectives, and does the formula contain incentives to improve the quantity and quality of performance? Second, can the formula be manipulated by individual states to their advantage without improving the basic quality or quantity of performance? Third, is the formula inequitable in the sense of rewarding or penalizing states whose performance is high or low as a result of external economic factors that make it easier to provide services in some states and harder in others, but over which the ES has no control?

To help answer these questions and to assist in refining and improving the BPF for FY 1976, research was undertaken in the fall of 1974 to examine the internal structure of the formula and the relationship of external economic conditions to ES performance. A data base was created, multi-variate analyses of the internal and external factors were performed, and a simulation model was constructed. Because the research was decision-driven, written and oral reports were prepared for specific purposes in support of the revisions being made to the BPF for FY 1976.

Significant oral presentations were conducted as follows:

1. Presentation to the Meeting on Improvements in the Balanced Placement Formula, October 23, 1974.
2. Presentations to ASPER, November 6 and December 6, 1974.
3. Presentation to the MA Executive Staff Meeting, Boston, Mass., December 12, 1974.
4. Presentation to MA Executive Staff, January 21, 1975.

Findings were presented in writing as follows:

1. Written Presentation to Meeting on Improvements in the BPF, October 23, 1974.
2. Interim Report of Findings and Recommendations, November 25, 1974.
3. Memorandum on Representation of Women in the FY76 BPF, December 5, 1974.
4. Memorandum on Contingency Plans for Allocating Resources, January 6, 1975.
5. Memorandum on the Effects of Unemployment on ES Placement Performance: Policy Implications, January 10, 1974.

In addition, very substantial time and effort was devoted to supporting the finalization of the BPF for FY76 and to preparing the actual calculations for each state. At the request of the ES, we agreed to use the data processing facilities originally constructed for the analysis of the BPF to support actual final calculations and printing of the funding allocations to the states. Although this was expected to be an inexpensive by-product of the research process at the time the agreement was made, in actual practice the decision resulted in the use of all the time and resources available to the BPF research effort during the months of January and February.

Many trial BPF runs were needed: each included a complete set of six pages of worksheets for each state, showing performance data for both FY74 and FY75; the computation of performance ratios compared to the national averages, and the total summary performance score; plus a seventh page applying the performance adjustment, the unemployment adjustment, and the national budget cut to arrive at a new total of dollars and man-years to be allocated to each state. In addition, a one-page summary sheet was prepared, showing FY75 man-years and FY76 man-years and dollars allocated to each state.

For each state, 78 performance items were combined through approximately 240 calculations to arrive at the total adjusted performance score, and 6 budget items were adjusted through 13 calculations to arrive at the final allocation. Each complete run required about 13,000 calculations and the printing of approximately the same number of figures. It is safe to say that preparation of the BPF in time for the February 28 distribution date would have been impossible without our support.

This Chapter presents an overview of the BPF, the significant findings relating to the internal structure of the BPF, and research into the effects of external factors on ES performance. For the convenience of the reader who is not interested in all details, many of the tables and charts are included in appendices to this Volume.

B. Overview of the Balanced Placement Formula

The BPF for FY75 and for FY76 consists essentially of a series of performance ratios that are combined in a weighted summation to yield a summary performance score for each state. Worked out examples for the two years are included as Appendix A to this Chapter. The FY75 BPF had 27 measures of performance for each state; the FY76 version has 30 measures. Each measure for each state is divided by the national average for the measure, resulting in a credit index that is equal to 100 for a state whose performance is equal to the average. The credit indexes are combined to yield a summary score for the state through a weighted summation process, where the weights are budget or policy weights whose sum is 100 percent. A detailed arithmetic statement of the FY76 BPF is contained in Appendix B. The Exhibit on the following page compares the components of the performance measurement part of the formula and shows the initial budget weights for the two fiscal years.

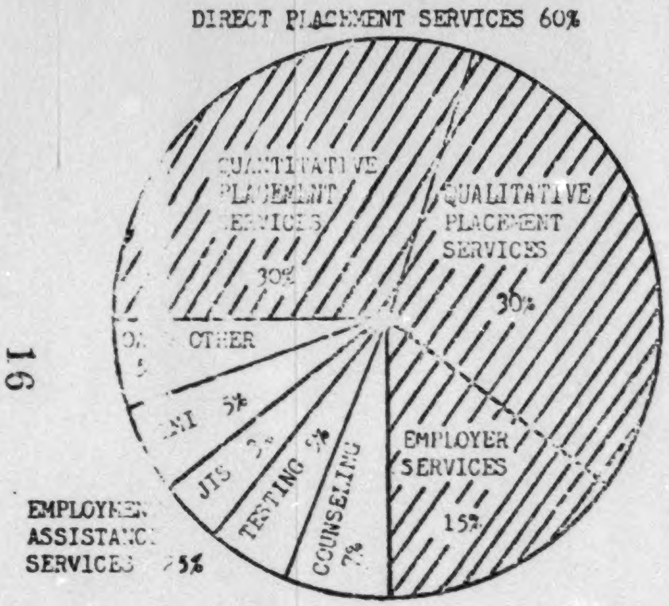
The result of the calculations is a summary performance score that is equal to 100 percent for a state whose overall performance was equal to the national average, with better-performing states having higher scores. In actual use, the FY75 formula resulted in scores ranging from 75 percent to 125 percent and the FY76 formula yielded scores ranging from 70 percent to 150 percent.

There are three technical reasons for the larger range in the FY76 formula. Referring to the Exhibit the pie chart for FY75 shows 25 percent weight given to employment assistance services. This was intended to encourage maintenance of such services. Of these, performance was measured only for testing (due to lack of data for the others). As a result, 20 percent of the weight was constant for all states, limiting the range of scores. (This also had the effect of giving each of the measured items an effective weight that was higher than the apparent weight in the ratio 100/80 or 1.25). In the FY76 formula, all items were measured.

The second reason for the larger range of scores in the FY75 formula is that several of the performance measures were revised to improve the formula. The third reason is that the method for adjusting for unemployment, the only external factor taken into account in the formula, was changed. Both of these changes were based in part on research results presented later in this Chapter where they will be discussed in more detail.

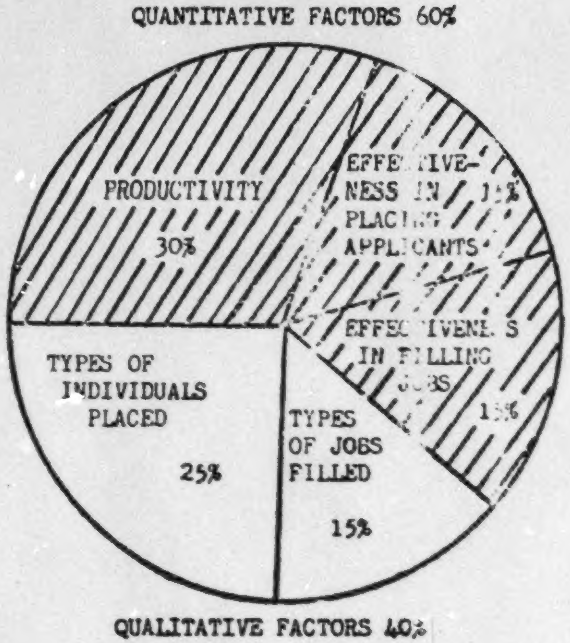
EXHIBIT
INITIAL BUDGET WEIGHTS

FY 1975 BPF



QUANTITATIVE PLACEMENT FACTORS	30%
QUALITATIVE PLACEMENT FACTORS	30%
DIRECT PLACEMENT SERVICES	60%
INDIRECT: EMPLOYER SERVICES	15%
TOTAL DIRECT AND INDIRECT PLACEMENT SERVICES	75%
EMPLOYMENT ASSISTANCE	25%
TOTAL	100%

FY 1976 REVISED BPF



PRODUCTIVITY (PLACEMENT PERFORMANCE PER MAN YEAR WORKED)	30%	
EFFECTIVENESS IN PLACING APPLICANTS	15%	
EFFECTIVENESS IN FILLING JOBS	15%	
TOTAL QUANTITATIVE FACTORS		60%
TYPES OF INDIVIDUALS PLACED	25%	
TYPES OF JOBS FILLED	15%	
TOTAL QUALITATIVE FACTORS		40%
TOTAL		100%

The summary score is used to compute performance-adjusted man-years for the next fiscal year, from a starting point of the current fiscal year allocation. To limit the overall effect of the BPF on the state allocations, to plus or minus 10 percent, a range designed to avoid disruption due to too large an increase or decrease in funds, a compression factor was applied to the resultant scores, as shown in the examples in Appendix A (Table 6 for FY75 and Table III for FY76). The actual computation steps used in the BPF to determine the final allocation for each state are rather confusing and tend to obscure the real effect of the BPF on allocations. These steps show initial adjusted man-years, adjusted changes, interim allocations and the final basic allocation. Reduced to its simplest form, the BPF summary score has an effect only on relative shares of ES resources. A state that has 10 percent of national ES man-year resources this year and has performance equal to the national average will get 10 percent of next year's man-years (adjusted for unemployment). A state starting with 10 percent that has a performance score of 110 percent would get 11 percent of next year's resources; if its score is 90 percent, it will get 9.1 percent. The arithmetic statement of this is in Appendix B.

The published computational steps also obscure the effects of national policy decisions. For FY76, the final published Table III. C. 8 showed that the amount of funds available for distribution through the BPF was about 20 percent less than the amount needed to fund the man-years "needed" by the states. Of the 20 percent, 5 percent was due to the method used to adjust for unemployment, 5 percent was due to changes in the method for funding labor market information services and immigration certifications, and the remaining 10 percent was due to a reduction in the national ES budget. The BPF performance adjustment had no effect on these changes, but the presentation of results does not make this clear.

C. Analysis of Internal BPF Performance Measures and Structure

1. Purpose and Method

The analysis of internal factors in the BPF was originally designed to answer four questions relevant to improving the BPF for FY 1977:

a. Of the performance ratios in the formula, which ones have the greatest effect on the initial adjusted allocation of man-years?

b. Which items appear to be duplicative of other items in the formula? What are the inter-relations among the items?

c. Are there scale effects, such that the absolute or relative size of the numerator or the denominator of the various ratios is closely related to the initial allocation?

d. How sensitive are the results to the policy weights and budget weights employed in the formula?

To answer these questions for the FY75 BPF and to test alternate versions of the FY76 BPF, a series of statistical analyses was performed with the state as the unit of observation:

a. Analysis of the simple correlations of each of the performance ratios with the initial change in man-year allocation, and with each of the other performance ratios identified duplicative and/or counter-productive elements in the FY75 BPF and indicated directions for changes in the BPF for FY76.

b. Step-wise multiple regression analyses, with the percent change in man-years as the dependent variable and the performance ratios as the independent or explanatory variables were used to identify:

   (1) Which of the performance ratios make the greatest contribution in a step-wise analysis;

   (2) Which variables are significantly related to the dependent variable when all variables are included.

c. A simulation model was developed which has the capability to project the effects of manipulation of performance measure data, the impact of alternate specifications of performance measures, the effects of different sets of policy weights, and the consequences of different budget weights. The simulation model utilizes a series of equations which correspond to the computational methods embodied in the FY76 BPF.

   Based on the results of the prior analysis, a series of scenarios was formulated in close cooperation with the Manpower Administration; the actual state performance data for FY73 and for FY74 were processed through the model; and the resultant projected man-year allocations for each scenario have been compared with the actual for FY75 to ascertain the sensitivity of the BPF to changes in each of the items.

2. Analysis of the FY75 BPF and use of the results in the FY76 BPF

a. Correlation Analysis

(1) Relationships between individual measures and the summary score

The first step in the statistical analysis was to examine the correlations among the factors in the FY75 BPF on a cross-sectional basis among the 52 states (including D.C. and Puerto Rico). The simple correlations of each of the 27 performance ratios, the unemployment rate, and the number of man-years paid are presented in Table II-1.

It was expected that, since each performance ratio is arithmetically related to the percent change in man-years, all performance correlations would be non-negative. As can be seen in Table II-1, this expectation was not fulfilled with respect to the group of ratios under the heading Percent of Individuals Placed by Type of Job. Only 3 ratios (Duration less than 4 days, Skill Level VI, and Wage Rate under $1.60) were significantly positively correlated, and all 3 had the lowest policy weight (1) in their group. One ratio (Duration over 150 days, policy weight 3) was negatively correlated.

The unemployment rate was not significantly correlated. The number of manyears paid was negatively correlated with percent change in man-years, which was expected, based on reports that the largest states faced the worst in the FY75 BPF allocation process. However, results presented later in this report lend to different interpretations in relation to both of these items.

(2) Types of Jobs

Table II-2 presents the correlations among the performance ratios for Types of Jobs. In the original plan for this analysis it was expected that significant positive correlations would be found between, for example, high-wage levels and high-skill levels, and between short-duration jobs and low-skill levels. To some extent, this hypothesis was confirmed. The percent of individuals placed in short-term jobs is [illegible] correlated with Skill Level III, and is positively correlated with Skill Levels V and VI;

Table II-1 Correlation of FY75 BPF Performance Factors with Initial Percent Change in Man Years (dMY)

Performance Factor		Correlation with Percent Change in Man Years*
Individuals Placed, Percent of Plan (IP/Pln)		.447
Placement Transactions, Percent of Plan (P/Pln)		.518
Individuals Placed per Man-Year (IP/MY)		.845
Placements Transactions per Man-Year (P/MY)		.843
Percent of Target Groups Placed:		
Veterans	(V/VA&R)	.749
Minority	(M/MA&R)	.645
Poor	(P/PA&R)	.580
Handicapped	(H/HA&R)	.557
UI Claimants	(UI/UIA&R)	.581
Youth	(Y/YA&R)	.483
Older Workers	(O/OA&R)	.629
Percent of Individuals Placed by Type of Job:		
Duration:	Less than 4 days	.505
	4-150 days	.119
	Over 150 days	-.359
Skill Level:	I	-.274
	II	-.080
	III	-.291
	IV	.282
	V	.198
	VI	.470
Wages:	Under $1.60	.336
	$1.60-2.49	.071
	$2.50 and over	-.184
Penetration Rate		.831
Percent of Openings Filled		.846
Individuals Tested (GATB and NATB) as a Percent of Individuals Counseled		.522
Individuals Tested (Other) as a Percent of Openings Received		.293
Unemployment Rate		.070
FY73 Man Years Paid		-.313

---

*Correlation coefficient must exceed .300 to be statistically significant at the .05 level.

and the percent placed in long-term jobs is negatively correlated with percent placed in the lowest wage jobs. The other significant correlations between duration and skill, however, present a mixed picture.

Of most interest in Table II-2 are the correlations between measures of the same type. Among the Duration measures, percent placed in jobs over 150 days is negatively correlated with the other two categories. In particular, the correlation with percent placed in jobs 4-150 days is -.873, a negative correlation implying a direct trade-off between the two categories; similarly, among the $1.60 - 2.49 category and the $2.50 and over category. The Skill Level categories have a mixture of positive and negative inter-correlations.

The reason for the observed inter-correlations appear to have more to do with the technical specification of the measures than with the substance of the performance being measured. As an example, in the Duration measure, each category is defined as applicants placed in that category as a percent of all applicants placed. Therefore, arithmetically, if the percent in one category increases, the percent in one or both of the other two must decrease. Furthermore, since the policy weights give higher rewards for increased percentages in the longer duration categories, there is an incentive to manipulate the data by recording on the original job order form, the highest Duration code, and similarly for Skill Level and Wage Rate. Because there was no item in the FY75 BPF to counterbalance such manipulation, states may well have undertaken it. Recommendations to correct this problem are reflected in the FY76 BPF analyzed in Section II-B.

(3) Target groups

Finally, a set of correlations was studied to test the hypothesis that those states who placed higher relative emphasis on service to the disadvantaged and to other special target groups were penalized by the FY75 BPF. Such a hypothesis can be derived from a conceptual framework which deals with a given labor area, at a given point in time, with relatively fixed resources. (This is equivalent to treating the ES as a two-product firm operating on a Marshallian production function.) With hindsight, it is easy to see that such a hypothesis, even if true, would not necessarily be testable using aggregate statewide data reflecting ES adjustments to changing policies, priorities and resources over time.

Table II-2 Correlations among Performance Ratios for Percent of Individuals Placed by Type of Job

	Duration			Skill						Wages		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Duration:												
(1) Less than 4 days	1.000	-.027	-.464	-.082	-.142	-.548	.261	.418	.717	.267	-.264	.123
(2) 4-150 days		1.000	-.873	.131	.517	-.346	-.408	.106	-.258	.212	-.077	-.033
(3) Over 150 days			1.000	-.076	-.388	.574	.234	-.298	-.121	-.318	.198	-.031
Skill Level:												
(4) I				1.000	.006	-.093	-.216	-.144	-.030	.045	-.032	.009
(5) II					1.000	-.382	-.376	-.385	-.371	.043	-.119	.096
(6) III						1.000	-.172	-.379	-.462	.059	.093	-.122
(7) IV							1.000	-.159	.486	-.065	.136	-.101
(8) V								1.000	.314	-.089	.004	.042
(9) VI									1.000	-.009	-.162	.164
Wages:												
(10) Under $1.60										1.000	-.234	-.283
(11) $1.60 - 2.49											1.000	-.866
(12) $2.50 and over												1.000

From the correlations presented in Table II-1, it is clear that better service to the target groups is positively correlated with the FY75 BPF allocation. Table II-3 displays the correlations among several of these performance measures. The first item, Individuals Placed as a Percent of Plan (IP/Pln) is significantly correlated only with percent of Openings Filled (OF/OR). The lack of a relationship to other items possibly reflects the fact that plans are adjusted quarterly via negotiation between the state and the regional office in response to changing conditions in the state. For this reason and because the planning process as a whole has imprecision, it is recommended that performance in relation to plan be eliminated from the BPF.

Of significant interest is that the rate of Placements per man-year (IP/MY) is positively correlated with the percent of each target group placed and with penetration of the job market (OR/Emp and OF/OR). In addition, the placement rate for each target group is positively correlated with the rate for every other group and with penetration of the job market. These findings indicate that the better performance states tend to do a better job according to most measures of performanc

Two other items in Table II-3 are of interest. First, the state unemployment rate (U), which might be expected to be negatively related to ES performance, is in fact negatively correlated only with the placement rate for handicapped applicants. (The relationship of unemployment and other external factors to ES performance is further explored in Section C of this Chapter.) Second, size of the ES agency, as measured by man-years (MY), has a significant negative correlation with only 3 performance measures (IP/MY, P/PA&R, and OR/Emp), although it tends to be negatively related to all measures. It does not appear that size alone is a major factor in ES performance or in the FY75 BPF allocation process.

b. Multiple Regression Analysis

The correlation analysis presented thus does not permit conclusions about the sensitivity of the BPF allocation process to each of the factors when all factors are taken into account at the same time. For this purpose, multiple regression analysis is an appropriate tool. A step-wise analysis selects first the factors having the greatest value in explaining the end result and therefore identifies the factors

Table II-3 Correlations among Selected FY75 BPF Performance Measures*

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)	IP/Pl[illegible]	1.000	.295	.174	.057	.020	.160	.193	.020	.064	.166	.479	-.127	-.107
(2)	IP/[illegible]		1.000	.730	.577	.478	.512	.483	.378	.581	.646	.637	-.121	-.320
(3)	V/VA[illegible]			1.000	.692	.494	.792	.794	.457	.867	.556	.618	-.254	-.108
(4)	M/[illegible]				1.000	.771	.631	.543	.663	.722	.527	.441	-.272	-.198
(5)	P/PA[illegible]					1.000	.520	.453	.549	.485	.592	.355	-.195	-.338
(6)	H/H[illegible]						1.000	.819	.532	.774	.373	.422	-.427	-.220
(7)	UI/[illegible]&R							1.000	.460	.716	.347	.524	-.273	-.065
(8)	Y/YA[illegible]								1.000	.472	.440	.333	-.100	-.263
(9)	O/O[illegible]									1.000	.521	.487	-.269	-.011
(10)	OR/[illegible]										1.000	.544	.198	-.344
(11)	OF/OR											1.000	-.052	-.130
(12)	U												1.000	-.044
(13)	MY													1.000

---

*See Table II-1 for explanation of abbreviations to which the allocation formula is most sensitive. Because each factor in the formula is arithmetically related to the end result of the formula through policy weights and budget weights, one would expect the regression analysis to explain 100 percent of the variation in end results (and in fact the equations should become overdetermined).

Appendix C.1 presents the detailed results of the analysis. The dependent variable was percent change in man-years. The independent or explanatory variables include all 27 FY75 BPF performance ratios, plus FY73 total man-years (included to test the partial relationship of this item to the dependent variable). Of all 27 performance ratios, only 10 were statistically significant in the analysis. This is due primarily to the inter-correlations among the ratios, especially those relating to Types of Jobs. FY73 man-years also was not significant.

However, the single most important factor both as measured by size of coefficient and by percent of variance explained is the unemployment rate. (This result is reliable, because the unemployment rate is uncorrelated with the performance measures.) The size of the impact is attributable both to the size of the adjustment in FY75 BPF Table 3 and to the fact that the adjustment applies uniformly to 60 percent of the formula weight. (In fact, the adjustment applies to 75 percent of the variable portion of the formula. Deducting the 20 percent fixed weights in Table 5, leaves 80 percent variable weights. 60/80=.75.) the unemployment rate by itself bears little relationship to the individual ES performance ratios, it is clear that the BPF allocation results are unduly affected by the FY75 method of adjustment.

Additional analyses were performed, using policy-weighted performance ratios, credit indexes, and adjusted budget weights as the explanatory variables. In each case, the results with respect to unemployment were similar, although the analysis using adjusted budget weights obviously showed all factors as significant, due to the arithmetic relationship to the dependent variable.

c. Simulation

To permit testing the effects of various manipulation scenarios for the FY75 BPF and to test alternate formulations of the FY76 BPF, a generalized simulation model was created. The general formula for the model is similar to that in Appendix B.

The simulation system relies upon a data base of ES performance data for each. For the FY75 BPF, this data base was created directly from performance data contained on the BPF forms. For FY76 testing, FY74 performance data was extracted from ESARS tapes containing FY74 reports from each of the 52 states. All policy weights were external parameters which would be modified at will. Policy weights (PW) are integers which can be set at any value. For example, to exclude any particular performance ratio from a particular test of the formula, the PW can be set to zero and similarly for budget weights.

In preparation for the October 23, 1974, BPF Review Meeting, three simulations were performed, even though none was planned prior to December 1, according to our original project schedule. The results of these simulations are summarized in the first three tables of Appendix D. In the first simulation, each of 51 states (excluding Puerto Rico) was assumed to have achieved a 10 percent increase in productivity for placement transactions, with all other performance relationships (ratio of transactions to individuals placed, placement rate of target groups, etc.) held constant.

Overall, 7 states, including 4 of the 8 lowest performing and 3 of the 5 highest, would have experienced no significant improvements in man-year allocations had they had 10 percent higher productivity, 4 states would have improved by an average gain of approximately 10 percent and the remaining 40 states would have improved by an average of about 5 percent.

Next, it was assumed that each state would manipulate data on Types of Jobs such that 10 percent of placements would be reported in the next higher category for each of the items in FY75 BPF Table 2B. Only 2 states would have benefited more than 5 percent from the manipulation.

In the third simulation it was assumed that the unemployment rate adjustment was eliminated from the FY75 BPF. If this were done, 11 states would have gained at least 5 percent in man-year allocation, 10 states would have lost 5 percept and 30 states would have stayed the same. The distribution change is fairly even throughout the range of actual percent change in man-years, indicating that the unemployment rate adjustment affected the low-performing states and the high-performing states equally, although not necessarily equitably.

d. Summary

Simulations of the FY75 BPF were limited to the three described herein, because ES national, regional and state recommendations, and the results of the analysis reported herein all pointed toward significant revisions in the BPF for FY76 which, while retaining most of the basic concepts of the FY75 BPF, would improve the formula, increase incentives to improve ES performance, and reduce the potential for manipulation. Briefly, the combined recommendations included elimination of planned performance, addition of measures of penetration of the potential applicant market, revision of the specification of measures of types of jobs, replacement of the counseling and testing items, and elimination of fixed items.

3. Analysis of the BPF for FY76

a. Introduction

As indicated in the preceding Section, a number of changes were recommended for incorporation into the FY76 BPF, based on research and upon the actual experience in using the FY75 BPF. To test the effects of these changes, the general simulation model was used to test several versions: a Replication of the FY75 BPF using new (FY74) performance data; and alternate BPF's reflecting new specifications of performance ratios.

The principal differences between the FY75 BPF and the alternatives tested were as follows, with reference to FY76 BPF Table numbers (see Appendix A):

(1) The measure of penetration of the Job Market (Item 1a.) includes all nonagricultural employment, because the ES nationally is placing individuals in construction and government in approximately the same percentages as employment in those industries is of total U.S. employment. In addition, agricultural employment was included.

(2) Item 1B1 was added to measure effectiveness in serving the ES client potential. The measure is new applicants and renewals as a percent of total unemployment.

(3) Item IIA1. Placement Rate of Target Groups has been expanded to include women and migrants as target groups.

Women were included because national data show that the placement rate of women is lower than men, total and in the minority and poor target groups; that women are under-represented among the other target groups, especially veterans; and that women are more likely to be placed in jobs with low wage rates.

Migrants were included in response to recent court decisions and MA policy responses, although data were available only for the period 7/1/74 to 12/31/74.

(4) Item IIIB. measures openings filled in each category as a percent of openings received in that category, and replaces percent of applicants placed.

(5) Item IIA2. measures effectiveness in placing counseled applicants and replaces the testing items.

(6) No hold harmless provisions or adjustments for external factors were included, pending further budget information and completion research into external factors.

b. Comparison of results from FY76 alternates with FY75 replication

Appendix Table D.4 presents detailed state-by-state results of the simulations. For comparison, actual results from the FY75 BPF are also presented. Appendix Tables D.5 through D.9 summarize the results obtained by comparing the percent change in man-years for FY75 with the percent change that would result from each of the four simulations for FY76.

In general, states that did well under the FY75 BPF would also do well under each of the tested alternate versions, and vice versa, although the dispersion of change was greater for the 3 alternate formulas. An initial examination was conducted which focused on states experiencing extreme changes from FY75 as compared with the simulation.

In the first case, one state (Washington) which had less than 5 percent gain in FY75 had an indicated increase of over 25 percent in the FY75 Replication, and had even greater gains in each of the alternatives because the state reported much higher performance in FY74 than it had in FY73. It increased the total number of individuals placed (as opposed to a general decrease), placements per man-year, its placement rate for each target group, and its penetration rate. At the same time, the ratio of placement transactions to individuals placed dropped from 2.36 to 1.44. These gains were all greater than the national average, and cause the high results on all simulations.

In the second case, a state (Michigan) which had a slight loss in FY75 (-3.68 percent) would experience a loss of more than 28 percent according to each of the alternate formulas and an 11 percent loss on the Replication. Michigan increased its productivity, both absolutely and relative to the national average, but its combined placement rate for target groups fell absolutely (and from 69 percent to 56.8 percent relative to the national average, which increased.)

Penetration of the employment market also dropped slightly. The larger loss for Michigan under the three alternates as compared with the FY75 Replication derives from 3 additional factors:

(1) Michigan's penetration of the applicant potential (defined as new applicants and renewals as a percent of unemployment) was 58.6 percent of the national average, and percent placed was 92.5 percent of the average. This may be due in part to factors in the auto industry, because 47.36 percent of applicants were UI claimants (the group with the lowest national placement rate), compared with 32.83 percent nationally.

(2) Michigan received a 2 percent increase in man-years as a result of the unemployment adjustment in the FY75 Replication, omitted from the alternates.

(3) Michigan did better than the national average on Types of Jobs under the FY75 Replication, but did worse under the alternates. The comparison data presented in Appendix Table D.10 is illustrative of the impact of respecifying this item. For illustrative purposes, data is also presented for Oklahoma. (In both cases, the data for alternative A exclude agricultural jobs.)

Under the FY75 Replication, Michigan exceeded the national weighted average percent distribution of individuals placed by type of job for all three components of the formula, whereas Oklahoma was lower than the national average. Comparing the two states, Michigan had 9.8 percent of applicants placed in jobs of less than 4 days duration, compared with 18.5 percent for Oklahoma; it had 58.0 percent placed in jobs paying more than $2.50, compared with 28.9 percent for Oklahoma.

Under the FY76 Alternate A, Michigan was lower than the national average weighted percent of openings filled by duration and skill level, but was higher for openings filled by wage rate. Oklahoma filled a higher percent of jobs than the national average in every category, and shows a substantial gain as a result.

The two different specifications of these measures are both intended to provide an incentive to states to place applicants in the highest quality job consistent with their skills, abilities, etc. FY75 BPF Table 2B provides this incentive, but it may penalize those states having relatively fewer long-term, higher-paying jobs. The FY76 BPF provides an incentive to states to fill all openings received, and the policy weights provide an incentive to fill higher-quality jobs. It will be noted that the national averages for percent of jobs filled for Duration under 4 days and for Skill Level II (Clerical, Sales and Service) are nearly 100 percent, indicating that perhaps there should be no weight given in the formula.

c. Sensitivity Analysis of the FY76 BPF

To test the sensitivity of the three FY76 Alternates, the correlation and regression analysis techniques applied to the FY75 BPF were repeated. The correlation analysis results can be summarized very concisely. All performance ratios except individuals counseled as a percent of new applicants and renewals were positively correlated with the percent change in man-years in all alternates, even when budget weights for the items were zero. This result occurs because no performance ratios were negatively inter-correlated, and most were positively inter-correlated. The tables of correlations between FY74 and FY75 performance measures and the percent change in man-years is shown in the following table. Similarly, the regression analysis results can be quickly summarized. Because the variation in percent change in man-years was a direct arithmetic function of the performance ratios, with no independent variation introduced by external factors such as the unemployment rate, the equation became overdetermined when the last variable is included and there was no residual variation. The coefficients of all ratios are positive and statistically significant. In the actual FY76 BPF, there was some residual variation, due to the unemployment adjustment, as shown in Appendix C.1 and C.3.

Correlation of FY74 and FY75 Performance Data with FY76 BPF Percent Change in Man-Years (dMY)

Performance Factor		Correlation with Percent Change in Man Years*	
		FY74	FY75
Individuals Placed per Man Year (IP/MY)		.837	.898
Placement Transactions per Man Year (P/MY)		.866	.851
Applicants Served (A&R/UNEMP)		.533	.517
Placement Rate (IP/A&R)		.816	.800
Non-Agricultural Penetration (OR/Non-Ag EMP)		.732	.769
Non-Agricultural Fill Rate (OF/OR Non-Ag)		.769	.678
Agricultural Fill Rate (OF/OR Ag)		.401	-.007
Percent of Target Groups Placed:			
Veterans	(V/VA&R)	.766	.803
Minority	(M/MA&R)	.594	.731
Poor	(P/PA&R)	.680	.558
UI Claimants	(UI/UIA&R)	.653	.478
Migrants	(MG/MGA&R)	NA	.193
Women	(W/WA&R)	.759	.721
Handicapped	(H/HA&R)	.734	.796
Older Workers	(P/OA&R)	.817	.779
Youth	(Y/YA&R)	.606	.622
Individuals Counseled (IC/A&R)		-.055	.146
Individuals Placed After Counseling (IPC/IC)		.519	.445
Percent of Individuals Placed by Type of Job:			
Duration:	Less than 4 days	.274	.186
	4-150 days	.643	.427
	Over 150 days	.760	.617
Wages:	Under $2.50	.686	.453
	$2.50-$3.49	.724	.590
	$3.50 and Over	.488	.672
Skill Level:	I	.354	.383
	II	.765	.624
	III	.747	.516
	IV	.677	.649
	V	.536	.261
	VI	.435	.295

*Correlation coefficient must exceed .300 to be statistically significant at the .05 level

4. Remaining problems in the internal structure of the BPF

In the process of developing the Balanced Placement Formula and revising it for use in FY76, considerable time and attention was paid to including all quantitative and qualitative measures of ES performance, to reflecting the many legal and judicial mandates for services to special groups, and to providing incentives for state agencies to improve both the quality and quantity of service. The incentives are reflected in the policy weights and budget weights assigned to each of the performance ratios. Although the BPF weights give a surface indication of incentives, they do not take into account some very important aspects of the problem of weighting the parts of a summary measure.

First, the effective weight of a part of a summary measure has two components: its explicit weight in the formula, and its effective weight deriving from its variability. To illustrate the problem, consider Table II-4 on the following page. Column (2) shows the actual budget weights assigned in the BPF for the quantitative performance measures, and column (3) shows the ratio of each to the weight for individuals placed per man-year (IP/MY). This column shows that it was intended to give half as much weight to placement transactions (P/MY), 40 percent as much weight to the placement rate (IP/AR), etc.

The effective relative weights shown in column (6), however, are quite different for most items, because the standard deviations of most of the ratios are quite different from that of the first ratio, as shown in columns (4) and (5). The placement transactions per man-year has an effective relative weight equal to 77 percent that of individuals placed per man-year, while the effective weight of the placement rate is only 7 percent as much, instead of the intended 40 percent. Similar calculations could be made with respect to the qualitative BPF measures. To correct for this problem, it is necessary to compute correction factors for each measure, dividing the desired budget weight by the standard deviation of the measure. Multiplying each actual performance ratio for each state by the appropriate correction factor will result in adjusted performance ratios that enter into the formula with the desired effective weight.

Table II-4 Variation and the True Effective Budget Weights of Selected Performance Indicators Used in the FY 1976 BPF

		Components of Effective Weight					
		FY76 Budget Weight		Variation			
Indicator	FY74 Average (1)	Actual % (2)	Ratio to IP/MY (3)	Standard Deviation (4)	Ratio to IP/MY (5)	Effective Relative Weight [(3)X(5)] (6)	Correction Factor for Desired Weighting [(2)÷(4)] (7)
Individuals Placed per Man-Year Worked (IP/MY)	139.2	.20	1	41.4	1	1	.0048
Placement Transactions Man-Year Worked (P/MY)	284.3	.10	.50	64.0	1.55	.77	.0015
New Applicants and Renewals as a Percent of the Number Unemployed (AR/U)	80.1	.07	.35	41.2	1.00	.35	.0017
Individuals Placed as a Percent of New Applicants and Renewals (IP/AR)	26.6	.08	.40	7.0	.17	.07	.0114
Nonagricultural Openings Received as a Percent of Employment (OR/E)	10.0	.05	.25	5.2	.13	.03	.0096
Nonagricultural Openings Filled as a Percent of Openings Received (OF/OR)	62.3	.06	.30	12.5	.30	.09	.0048
Agricultural Openings Filled as a Percent of Openings Received	96.2	.04	.20	16.9	.41	.08	.0024

The second problem is even more complex. As shown in the correlation Table on the following page, there is substantial inter-correlation among the several quantitative BPF performance ratios, with one exception. There is similar inter-correlation among the qualitative factors, and in particular between the total placement rate (IP/AR) and the placement rates for the individual target groups. As stated previously, the inter-correlation indicates that better performance states tend to do better on all measures of performance.

The problem for the BPF is that the inter-correlation leads to double counting. Consider two arbitrary performance ratios that are perfectly correlated with each other, such that when one increases by one point, the other increases by the same amount. Then both must be measuring the same thing, and either could do as well as the other. When both are included in a composite formula such as the BPF, the effect is to double count the measure. There is a complex method that can be used to correct for the problem, but a simpler approach is to limit the number formula to statistically independent measures. It had been planned to perform a factor analysis to identify such independent measures, but this was not completed. However, analysis being conducted by the USES National Office staff is proceeding along those lines.

Finally, although improvements were made by including counterbalancing items in the FY76 BPF, a number of the performance measures can be manipulated to the advantage of the states. In particular, there are 11 performance ratios whose total budget weights add up to 30 points that have a number of new applicants and renewals as the denominator, while only one counterbalancing measure with a budget weight of 7 percent has that number in the numerator. Since the number of new applicants and renewals registered with the ES is in part under the control of the ES, there is a 30 to 7, or 4 to 1, incentive against registering individuals who have not been placed. There is a similar incentive against reporting job openings that have not been filled.

We do not recommend that there should be incentives for merely registering applicants or listing job openings. However, the work application and the job order are basic documents necessary for serving applicants and employers at the operating level. With the increased

Table II-5 Correlations Among Performance Ratios for FY74 Performance Data Used in the FY76 BPF

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) IP/MY	1.000						
(2) P/MY	.853	1.000					
(3) A&R/Unemp	.450	.542	1.000				
(4) IP/A&R	.671	.709	.424	1.000			
(5) OR/Non-Ag Emp	.521	.709	.659	.600	1.000		
(6) OF/OR Non-Ag	.648	.746	.378	.536	.512	1.000	
(7) OF/OR Ag	.316	.419	.013	.235	.017	.425	1.000
V/VA&R	.588	.697	.478	.874	.601	.571	.255
M/MA&R	.569	.442	.094	.646	.497	.288	.061
P/PA&R	.458	.558	.420	.734	.503	.448	.199
UI/UIA&R	.499	.578	.412	.784	.557	.408	.090
W/WA&R	.639	.640	.418	.956	.604	.451	.144
H/HA&R	.587	.681	.569	.810	.558	.506	.167
O/OA&R	.688	.755	.424	.872	.636	.571	.284
Y/YA&R	.447	.449	.273	.832	.483	.348	.112
(8) IC/A&R	-.190	-.116	.014	.008	.021	-.108	.070
(9) IPC/IC	.477	.433	.447	.466	.436	.498	.039
Duration:							
Under 4 days	.331	.165	-.200	.165	.245	.206	-.010
4-150 days	.631	.562	.129	.373	.307	.688	.526
Over 150	.689	.710	.413	.505	.462	.949	.383
Wages:							
Under $2.50	.583	.670	.323	.458	.379	.912	.529
$2.50 - 3.39	.588	.688	.314	.471	.494	.936	.360
$3.40 & over	.521	.527	-.147	.274	.226	.650	.360
Skill Level:							
I	.267	.327	.074	.176	.233	.522	.197
II	.704	.659	.301	.526	.503	.909	.289
III	.744	.742	.397	.494	.484	.881	.432
IV	.562	.681	.348	.489	.441	.945	.323
V	.458	.570	.211	.343	.172	.740	.754
VI	.241	.456	.245	.230	.358	.595	.436

use of automated aids to the placement process, it is imperative that accurate files be maintained to permit the greatest amount of service to the community. Therefore, we recommend that measures of ES performance be developed and used in future funding allocation formulas that neither encourage nor discourage applicant registration and job listings. Measures of this type are described in the Methodology Guide, Volume 3 of this report.

D. Analysis of the Effects of External Factors on ES Performance

1. Purpose and Method

The analysis of the relationship of external factors to ES Performance was initiated to research several issues related to the BPF funding allocation process. First, it is intuitively obvious that such factors as labor market size and complexity, composition of employment, characteristics of the labor force, and unemployment have an effect on ES performance, and it was assumed that State ES agencies should not be penalized for poor performance due to factors beyond their control. Second, the unemployment rate *per se* was found to be an inadequate reflection of the influence of the external factors. Third, it seemed desirable to set output performance standards based upon the performance of similar states, rather than national average performance. Finally, it would be preferable to set realistic performance goals based on the potential market and need for public ES services and to measure performance against potential, rather than against national average performance.

The following factors were hypothesized to be related to ES performance:

a. Stable external factors

(1) Industry composition

It was hypothesized that the higher the percentage of employment in construction, manufacturing and government, the lower ES performance would be, because each of these industries has distinct hiring channels. Direct measures of concentration, dispersion, and the number of alternate hiring channels have not been developed.

(2) Labor force composition

Results of analyses by the Center for Applied Manpower Research showed the percentage of labor force in low-wage, low-skill occupations to be positively related to ES performance at the state level, but percent in minority groups was not related.

(3) Size of area

The hypothesis was that ES performance will be lower in larger areas due to the existence of competing institutions and agencies.

b. Volatile external factors.

(1) Unemployment

It is often assumed that ES performance will be lower where the unemployment rate is high. Analysis of the internal factors in the FY75 BPF resulted in the conclusion that the unemployment rate *per se* did not have a consistently significant relationship to performance, and other measures were tested.

(2) Growth

The hypothesis was that ES performance will be higher where there is a higher rate of growth in employment.

(3) Policy and law factors

It was hypothesized that policies and laws such as those that require the ES to perform enforcement activities, provide work tests, and list openings from federal contractors will result in lower ES performance.

The analysis was conducted in two major phases. In the first phase, analysis focused on the effects of external factors on ES performance at the state level, in part because it was hoped that some of the results could be utilized in the FY76 funding allocation process, in part because USES wanted to explore the feasibility of setting ES output standards based on groupings of states, and in part because state-level data on ES performance was readily available. In this phase, several different combinations of factors were tested, and the results of some of these tests are described below.

The second major phase focused on the effects of external factors on ES performance at the labor area level. The hypotheses listed above are derived from a conceptual framework that relates to individual labor areas. By definition, the labor area is an integrated social economic system. It constitutes the environment within which ES services are actually provided through approximately 2500 ES local offices, each of which is a locally-managed entity in a distinct labor market, with specific objectives, approaches and performance results that are dependent in part on local conditions. Although the state is the key level for funding allocations and for policy definition, state-level data on performance and on external factors are at best aggregations of data from individual labor areas.

The primary method used in the analysis of the effects of external factors on ES performance was multiple regression analysis. The regression technique proceeds by calculating the statistical relationship between each of the external factors and productivity when all factors are taken into account at the same time. The results from this step show how much performance increases or decreases in response to an increase or decrease in each factor and shows how much of the variation in performance is accounted for by the variations in the external factors when all factors are included. The final step in the regression analysis is to predict performance for each state and to compute the deviation from actual performance. For the prediction equation, a regression coefficient is calculated for each external factor. The regression coefficient for each factor indicates the amount by which productivity is expected to increase (or decrease) as a result of a one-point increase in that factor, holding all other factors constant. A constant term is also computed. (See Appendix E. for detailed results.) As used in the analyses reported below, the results show the factors that are significantly associated with high or low ES performance, but one cannot assume they caused the observed differences. Rather, the significant factors are in the nature of constraints that show the effect on differences from average performance.

2. Analysis Results at the State Level

a. The results of the first stage of multiple regression analyses are presented in Appendix Tables E-1 to E-4, where external factors were included in the equations with the dependent variables being ES performance ratios for FY73 and for FY74, respectively. Although results are not entirely consistent, several findings emerge.

First, the percent of low-wage, low-skill workers in the labor force is an important factor in explaining variation among the states in individuals placed per man-year (as was noted by the Center for Applied Manpower Research), placements per man-year percent of openings filled, and percent of applicants placed. This may be interpreted to indicate that the ES does a better job serving low-wage workers, or that low-wage workers and low-paying employers represent the primary market for ES services. As a classification principle for grouping states, the item has the severe limitation that it is available only for 1970.

The penetration rate is related primarily to two factors, the rate of growth in total employment and the rate of new hires in manufacturing. The rate of growth in employment tends also to be significantly related to placement productivity, while the rate of new hires in manufacturing is related only to penetration rate and to percent of openings filled. Percent of employment in each industry group tends to be related to ES performance, but in different ways depending on which measure is used and for which year.

Among the factors expected to have some consistent relationship to ES performance were the unemployment rate, the rate of change in the unemployment rate, and percent of U.S. employment, especially in a multi-variate analysis. The results obtained from the first-stage analysis did not confirm this expectation.

In response to the growing national concern with rising unemployment and its consequences for the operation and effectiveness of the Employment Service, research into the influence of external factors on the ES system was gradually changed from attempting to develop a typology or method of grouping states to analyzing the relationship between ES performance and unemployment. The immediate, specific goal was to develop recommendations for the best and fairest method of reflecting unemployment in the funding allocation process. Beyond that, the analysis leads to some broader conclusions which may be important inputs to the policy-making process.

In this stage, 10 factors were used as explanatory variables in a multi-variate analysis to explain variations among the states in individuals placed per man-year in FY74, a key measure of ES efficiency. (See Appendix Tables E-5 and E-6.) This analysis included 3 measures relating to unemployment. The correlations of the FY73 unemployment rate and the percent change in unemployment with individuals placed per man-year were not statistically significant. The third variable, claimants as a percent of new applicants and renewals, had a -.702 correlation (the highest of all variables), indicating that ES productivity was lower in the states having higher percentages of claimants registering with the ES. (Productivity was positively correlated with growth in employment, percent employed in contract construction and in government, and with percent low-wage workers.)

The results of the multiple regression analysis yielded significant factors when all ten factors were entered into a stepwise regression analysis. Of these factors, UI claimants as a percent of new applicants and renewals was clearly the most important, as indicated by the fact that it had the largest Beta coefficient (21 percent larger than the next highest). It was also the first variable selected in the analysis and, by itself, explained 49 percent of the variance among the states in productivity. The regression coefficient (b) shows that a one-point increase in the claimant percentage is associated with a .958-point decrease in productivity, or a drop of nearly one individual placed per man-year.

Finally, analyses were conducted on the effects on productivity as measured in the FY76 BPF. Five factors were included:

a. Percent of new applicants and renewals who were claimants. The results indicate that those states with high percentages of claimants have lower-than-average performance.

b. Rate of growth of employment. A higher rate of growth is associated with higher productivity, although the relationship was not significant with FY74 productivity.

c. Percent of workers in the state who are low-wage and low-skill. A higher percentage was associated with higher productivity.

d. Employment in the state as a percent of national employment. A higher percentage was marginally associated with lower productivity.

e. Unemployment in the state as a percent of total national unemployment. A higher percentage was marginally associated with higher productivity, possibly because where more people are unemployed, the average quality (skills, experience, education, etc.) of the unemployed individual is higher.

3. Analysis of Factors at the Labor-Area Level

Performance data were available for the first half of FY75 for 80 of the 150 major labor areas and for all states. Data was used in the analysis for the 80 labor areas and for 48 balance-of-state areas, which included all cities and towns outside the 80 SMSA's (Alaska was eliminated from the analysis due to extreme economic conditions; no data was available on external factors for Puerto Rico; the District of Columbia has no balance-of-state; and no data were available for the small portion of Rhode Island outside the Providence SMSA.) Four performance measures were used in the analysis: individuals placed as a percent of new applicants and renewals (IP/AR), and openings filled as a percent of openings received (OF/OR), both of which are BPF performance measures; also, individuals placed as a percent of the estimated number unemployed, and openings filled as a percent of nonagricultural employment (OF/E), both of which are composites of two BPF measures and indicate performance against potential. Productivity (individuals placed per man-year) could not be measured because man-year data were not available for the labor areas.

The external factors included in the analysis, and the results for each were as follows (the regression results are shown in detail in Tables E-8 to E-11).

a. Rate of growth of employment. Although this factor was significant at the state level, it was not significant at the labor-area level, perhaps due to correlation with industry variables.

b. Area employment as a percent of national employment. This measure of size was significantly negatively related to all performance measures, indicating that larger areas have lower performance.

c. Area unemployment as a percent of the national number of unemployed individuals. This factor was positively related to three of the measures, the exception being CF/E. This is also in part a measure of size; however, one can speculate that the larger the pool of unemployed individuals, the higher the average skills, experience, education, etc., of the unemployed individual, especially during a period of rising unemployment.

d. Unemployment rate. In contrast to findings at the state level, the unemployment rate was significantly negatively related to two BPF measures of performance, IP/AR and OF/OR, indicating the need for further examination.

e. Industry composition (percent of area employment in construction, manufacturing and government). The results were quite mixed. Of the significant results, percent of employment in contract construction was negatively related to OF/OR, but positively related to OF/E; the percent of employment in manufacturing was negatively related to IP/AR and OF/OR; and the percent of employment in government was positively related to OF/E. The remaining industry groups were omitted from the analysis because there was no structural hypothesis relating them to ES performance. It is quite possible that further analysis should also take into account the composition of growth in employment by industry.

f. UI claimants as a percent of new applicants and renewals. This factor was negatively related to all four performance measures, even though the analysis also took into account two measures of unemployment.

g. Size class. Four specific size classes were included in the analysis: SMSA's over 3 million population. of which there are three; SMSA's 1 to 3 million, of which there are 9; SMSA's under 1 million, of which there were 68 in the analysis; and 48 balance-of-state areas. These were included in addition to the other size variables to test whether or not grouping of areas by size was better than using the continuous size variable. Because the sizes of classes are correlated with the other measures of size, and because the stepwise regression program was permited to select any three of the four, the actual numeric results are not useful.

What is important and merits further analysis is that the size classes tended to be statistically significant, even when all other variables were included. This has implications for the grouping of labor areas for the purpose of setting output standards that should be explored further in a future development program.

Overall, the external factors appear to have explained less of the variance in ES performance at the labor-area level than in the analyses at the state level. One technical reason for this is that only 80 of the 150 major labor areas were included as data points in the analysis, while the remaining 70 were lumped into their respective balance-of-state totals, due to lack of data. Some of the 80 areas included are smaller than some of those omitted. Data can be obtained directly from the states for areas that do not submit reports via ESARS to the national level. Tests using that data should explain more of the variation. It is also possible that a larger component of the variation at the labor area level is due to variation in local ES management, which could not be explained by external factors. Finally, no measures of labor force composition were included in the analysis, a conceptually significant omission.

In summary, the multiple regression results tend to be somewhat confusing and unstable, due primarily to intercorrelations among the various external factors. Further analysis is needed to examine the patterns of intercorrelation, to select items for retention, and to perform additional analyses. Given the results to date, it is not certain that a sufficiently small number of significant factors appear which explain variations in ES performance measures so as to permit development of meaningful and comprehensible groups of states for purposes of setting performance goals and standards.

4. Comparison of regression results with BPF results at the state level

Although the regression analysis has not yet pinpointed specific factors for the purposes intended, the overall results can be used in analysis of the impact of external factors on individual state performance. Using the results of the regression analysis of the relationship between individuals placed per man-year and the external factors, states have been grouped into four categories according to the amount of the residual difference between placements per man-year predicted by the formula and actual placements per man-year. These states having actual performance much higher than predicted (approximately one standard error higher) have been classified in the "High" productivity group, states between the expected and one standard error above in the "Above Average" group, those below expected in the "Below Average" group, and those more than one standard error below in the "Low" group.

Similarly, those states having an FY76 BPF score of 29 percent or more (approximately one standard deviation) above the mean have been classified in the "High" BPF group, those with a loss of 13 percent or more in the "Low" group, and the remainder divided into above and below average.

The basic philosophy underlying the BPF and the related performance standards development project is that states should be rewarded for overall performance which is better than expected, and vice versa. The tabulated results in Table II-6 with respect to placement productivity show that the majority of the states received a "fair" result, comparing actual BPF grouping with the adjusted productivity grouping. However, the results show 7 states having a below-average BPF score had high actual productivity when compared with predicted, and 11 other states had the converse situation.

E. Interpretation and Recommendations

1. Registration of claimants

The statistical analysis results presented above clearly indicate that the percentage of new applicants and renewals who are claimants is a major factor in explaining differences in ES performance among the states, although additional research is needed to obtain more complete and precise results. This finding has major policy implications because the claimant percentage is a function both of the rate of unemployment in a state and of state law and policy relating to application of the work test to new claimants.

Claimants who are on temporary layoff and expecting recall have little incentive to actively seek a new job. If state law or policy requires the ES to take work applications for such claimants, this might be

Table II-6. FS Productivity by State

Actual Productivity (BPF Score)	Actual Compared with Predicted Productivity			
	High	Above Average	Below Average	Low
High	VA,MS, IA,WA	AZ		
Above Average	MO	WV, GA, KY, NB, ND, UT, CA, ID, OR	AL, FL, SC, AR, LA, NM, OK, TX, CO, MT, WY	
Below Average	NH	MA, VT, MD	ME, DE, NC, IN, MN, WI, KS, HI	PA, TN, SD, NV
Low		CT, RI, NJ	IL	NY, MI, OH

described as a workload item from which no end-product will result. Even if such claimants later learn that the layoff is permanent, and therefore begin to actively seek a new job through the ES, it is likely that the original work application would require thorough review and revision.

To illustrate the importance, take the case of New Jersey, which had an unemployment rate of 6.8 percent during 1973, approximately the same as in 1972, and which required virtually all claimants to register. 61.34 percent of New Jersey's new applicants and renewals were claimants of whom only 5.59 percent were placed. Data prepared by the state indicate that 44 percent of claimants were on temporary layoff. If these claimants had not been required to register, claimants new applications and renewals would have dropped by 169,000, and if the number of claimants placed did not change, then the placement rate for claimants would have increased to 9.98 percent. Estimating other effects on the state is difficult. If one uses the conservative figure of 15 minutes per new application or renewal and assumes an equal time expended on unproductive claimant referrals, then about 46 additional ES man-years would have been available for productive purposes and perhaps as many as 3600 additional individuals could have been placed, ignoring any related nonplacement or overhead time. Of course such estimates are based on many questionable assumptions.

When all external factors including the claimant percentage are included in a predictive equation, the actual performance of such low-performing states as Connecticut, Rhode Island and New Jersey is in fact better than predicted. On this basis, the performance of those three states is no worse than the performance of Arizona. Similarly, a large group of states whose actual performance is above average are performing at less than expected rates. The difference among the states in claimant percentage accounts for many of the differences observed. (One test of a similar measure of the effects of welfare and food stamp applicants showed non-significant results.)

At a time when unemployment is rising rapidly, ES administrators often bemoan the diversion of staff from ES to UI at the local level and the probable diversion of resources from ES to UI from the national level all the way down. The analysis shows that, even in FY74 when average annual employment grew nationally, substantial ES resources were diverted from serving active job seekers to taking unproductive applications for claimants as a result of state laws and policies. If similar laws and policies remain in effect under current economic conditions, the true diversion of resources is substantially larger than it was last year and higher than one would expect based on the simple diversion of ES positions.

- If MA were to adopt a radical policy on the issue, it should refuse to fund any application-taking or other service activity for claimants who do not voluntarily present themselves to the ES, since the goal is to minimize registration of job-attached claimants. A less radical and more feasible policy would be to insist that registration requirements be liberalized in those states in which the state ESC administrator has discretion, and to encourage other states to change laws that require registration of all claimants. The true policy objective of these changes is not to withhold services from claimants and not to encourage fraud, but to conserve relatively scarce ES resources for the purpose of better serving those active job seekers who apply to the ES for job search assistance.

2. Additional research needed

At several points in the discussion of the effects of external factors on ES performance, mention was made of the limitations of the data and the research methods used. An important limitation not previously addressed is that the analytic model presented is a static model, in the sense that it does not attempt to account for intertemporal variations in volatile economic conditions on the quarterly performance of the ES. Approaches to addressing this and other limitations are presented in the Methodology Guide, Volume 3 of this report.

3. Using external economic factors to set ES output standards: a dilemma

It was implied in preceding sections that, following the philosophy applied in the BPF for previous years, a state whose overall performance was equal to the standard for the state should receive the same share of national ES resources in the next year as it had in the previous year (this ignores, of course, "productivity increases", definitional changes, and other factors that affect the total amount of resources available for allocation through the performance-based budgeting process.)

It is clear from examining the research results that, when all external economic and social, policy and law factors are taken into account, there would be quite substantial variations in expected performance among the states, even if all states had performance equal to their standard. For example, for FY74 at the state level, expected productivity estimates ranged from 89 to 206, with 4 states having estimates under 100 and 4 states having estimates over 190, nearly twice as high. At the labor-area level, expected values for IP/U range from less than 10 to over 150!! If actual output standards are established for use in the funding allocation process, similar results can be expected, although the specific methods used will have a bearing on the resultant ranges of performance standards.

In theory, the purpose of reflecting the external factors in setting output standards which will be used in the resource allocation process is to adjust for factors beyond the control of ES management and to come up with standards against which ES management can be judged. States whose performance exceeds the standard are assumed to have good management and are to be rewarded accordingly, while states whose performance falls below the standard are assumed to have poor management.

The interpretation of the research results is that certain states having average management capability can reasonably be expected to have performance levels at least twice as high as certain other states also having average management capability. This leaves the policy-maker with something of a dilemma. On the one hand, it is desirable to reward good management, implying that the absolute level of performance is not being judged, only actual performance relative to a reasonable standard. This approach is advantageous, particularly when in the past it has been the large northern and eastern states who have suffered most through BPF. If the standards are lower for such states, it is less likely that they will suffer cuts in the future.

On the other hand, the ES exists to serve job seekers and employers who request its services. Irrespective of the quality of management or the stability of the service organization, it seems reasonable to allocate the resources to states where the greatest number of clients can be served. It is often argued that resource reallocations through the BPF have in some sense penalized the people living in the states losing resources. The converse of this argument is that leaving resources in states where actual or expected productivity is low (irrespective of quality of management) penalizes the residents of states where productivity is high.

The policy-maker must address this dilemma, taking into account both the political and the program implications of different solutions.

Chapter III

FINDINGS RELATIVE TO THE DEVELOPMENT OF INPUT STANDARDS

A. Theory of Performance Standards for the ES

Performance standards are models of the placement process which can help diagnose the cause of poor performance when actual placement operations are compared to them. Their purpose is to help improve the Employment Service; particularly in local placement operations. The development of these standards is not a simple matter and we recognized the difficulties of the task from the beginning of the project. In fact, doubts have been expressed that standards could be established without first answering long-range questions such as, "Is the Employment Service serving employers or serving applicants?" or, "Does the Employment Service aim to maximize placements or to reduce the unemployment rate?" When this study was started these questions already had a long history; perhaps they will have as long a future. It was clear to us, then, that we could not wait for them to be answered; the practical needs for an effective tool to carry out the purpose of improving the placement process was too urgent.

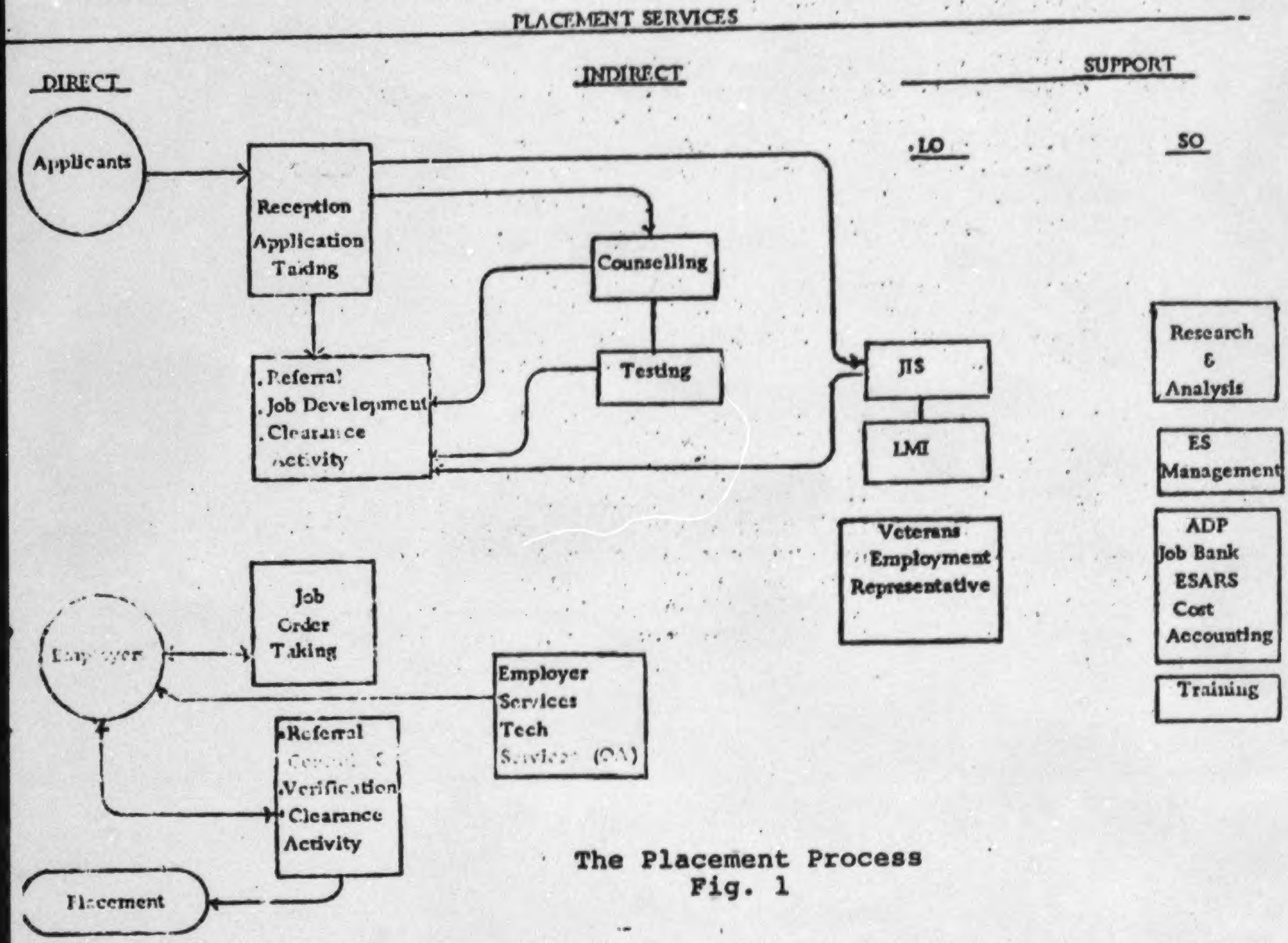
The ES faces a severe test in the current economic crisis. The stark days of the Wagner Peyser Act itself are recalled when the levels of unemployment are considered - even more sobering are the projections for high unemployment as far ahead as the end of the decade. While the agency faces this challenge it must operate in a fiscal environment of extremely scare resources - there is little margin for inefficiency and waste.

An effective response to the coming (if not already current) demands for an effective and efficient Employment Service requires that adequate management tools be put into the hands of state and local managers as rapidly as possible.

In our view an Integrated Management System that combines the Balanced Placement Formula with diagnostic and prescriptive analysis (i.e., Performance Standards) can be developed without waiting for the answers to long-range questions. Studies of the cost effectiveness of the placement process may take years; meanwhile there is an urgent need to make the current placement process as efficient as possible, at least until something better is developed, tested, and implemented. We therefore began our study by proposing a model for the placement process that depicted the current functional activities and the relationships between them.

An overview of our model is shown in Fig. 1 below. Resources allocated to each functional activity produce inputs to the placement process. The inputs are assessed by comparing the actual performance levels with standard levels to be determined through methods described in this report. The efficiency of each functional activity is assessed by comparing the resources required for the measured performance level against the standard model resources. In this project we have provided the following:

- Selection of the measures of performance
- Development of a method to measure the levels of performance for each functional activity.
- Development of a method to determine the resource requirements to meet those performance levels when the functional activities operate efficiently.


PLACEMENT SERVICES
DIRECT
INDIRECT
SUPPORT
LO
SO
Applicants
Reception
Application
Taking
Counselling
Testing
.Referral
.Job Development
.Clearance
Activity
JIS
LMI
Veterans
Employment
Representative
Research
&
Analysis
ES
Management
ADP
Job Bank
ESARS
Cost
Accounting
Training
Employer
Job
Order
Taking
Employer
Services
Tech
Services (OA)
.Referral
.Verification
.Clearance
Activity
Placement

The Placement Process
Fig. 1

Our project was designed to set the stage for a larger survey that would establish the actual performance standards. Our objective was to develop methods which would be used in that survey. After developing the methods we tried them out in several locations to demonstrate their practicality and capability to develop the standards. In these pilot trials we developed a self-application procedure for conducting the surveys that will significantly improve the scope of the next step by reducing the need for a member of the study team at every site on every day of the survey. A Handbook for Analyzing Local ES Performance has been developed for collecting time-utilization data at the local level; for computing efficiency measures, service percentages, and key quality factor measures. In addition to serving as the method for collecting the data needed to establish and validate input standards, the Handbook can be used immediately for local office analysis.

In the small survey we have conducted so far we have been able to prove the feasibility of collecting the data needed for establishing performance standards. Some trends and indications were observed in even this small sample of locations; these are described in the next section of our report. These trends lead to recommendations for ES policy that are stated briefly before each discussion. In many cases the ES is tending in the recommended direction anyway and the observations of our survey confirm existing knowledge; we present our observations as support for such policies and as illustrations of the insights the performance standards methodology can provide.

We have been helped in designing this study by the consideration and advice of a steering committee consiting of state and national office personnel. From time to time this committee has met to review the work of our team. On occasion they have recommended eliminating or adding components to our model of the placement process.

We believe that the remaining placement process components are necessary to any ES operation and therefore should be measured in the next step: a large survey to establish the actual standards. However, statistical analysis of the data collected in that survey may indicate differently, and further changes in the model will be needed. In fact, after performance standards have been established, such changes are still possible when revalidation of the standards takes place.

B. Significant Survey Findings

1. **File search is an effective means for making referrals and it is often given greater-than-average emphasis among offices that achieve high placement productivity.**

Our data indicate that file search is a cost-effective referral method. We were able to compare the placements made through file search referrals against those made through referral interviews in one office where the staff was divided between those serving walk-in traffic and those doing only file search (normally placements cannot be distinguished in this way since ESARS does not record the source of the referral). For this office we found that the number of placements from both activities was as follows: 85 due to referral interviews, 35 placements due to file search call-ins. Six people did file search, 16 did referral interviewing. On this basis file search was slightly more cost effective than referral interviewing (5.73 plcmt/pos vs. 5.3 plcmt/pos).

Our data shows that high-performing offices in this small survey generally (see Table following) devote a significant proportion of their resources to file search. If the sample was large enough to yield statistically significant findings from an analysis of variance we could determine the significance of file search in creating output performance. Until the next step in establishing standards has been taken we cannot say that file search is always valuable, but it appears likely that it contributes to an efficient ES operation.

2. Use of the self-application mode for completing registrations is a cost savings approach which many offices have successfully employed.

We observed a local office that did not use the self-application technique and had serious problems keeping up with the incoming traffic. One day during our survey week they ran behind incoming traffic by over two hours. Yet this office did not use the self-application method to reduce the time needed for each applicant. They believe that applicants will make so many errors that the time saved in completing applications will be lost later in correcting applications.

As a measure of the quality of the application-taking component, our survey included questions on errors found in applications. No great problems in error-correcting were reported nor were errors on applications taken by the self-application method estimated to be very high. Most offices

FILE SEARCH/CALL-IN (FC)

Unit: Call-In Attempts
Service Percent: $\frac{\text{Call-In Attempts}}{\text{Active Appl. File}}$

	Unit Cost In Minutes	Percent Of Resources	Service Percent	Plcmnts/ equiv.pos. Time ladders -direct plcmnt time only
1A	6.1	10.1	37.6	44.9
1B	10.4	2.9	7.5	43.0
1C	14.7	13.3	30.7	55.2
1D	8.2	5.8	10.2	35.6
2A	9.2	1.0	5.3	28.6
2B	9.1	2.8	20.3	6.7
3A	5.3	7.1	56.0	45.8
3B	8.3	3.4	39.1	35.6
4A	6.0	5.6	58.1	20.2
4B	12.9	6.3	26.9	18.1
4C	5.8	1.1	9.1	21.1
4D	6.3	7.6	50.9	24.8
[illegible]	7.9	0.6	1.8	55.1
[illegible]	7.3	1.2	5.3	15.8
6A	23.5*	7.7	15.5	35.2
6B	10.7	9.3	26.0	28.1

[illegible]ORS

$\frac{\text{[illegible] Placements}}{\text{Time Ladder Placement Equivalent Positions}}$

reported more than 90% of such applications had no errors. These facts have led us to conclude that where additional staff time is needed for serving applicants (i.e., walk-in traffic is heavy and wait times long) the self-application mode can help.

3. Job development can be over-used as well as under-used. Use of the activity is not tightly linked to placement performance when measured by the proportion of referrals made through this means.

We found no consistent pattern of use of job development among the interviewers in the offices we surveyed; some did no job development while others placed a heavy emphasis upon it. (We found one interviewer who relied almost exclusively upon this means for finding referrals.) When used appropriately, job development is an effective method for placing applicants and it generates support for the ES in the employer community. However, if it is overused and employers receive an excessive number of job development calls, instead of generating support quite the opposite may occur.

An exclusive use of job development may be symptomatic of an account interviewer style of operation which can be disruptive in a Job Bank. When this occurs we have an account interviewer style where it is not supposed to occur and job development is only the name given to referrals that are in fact actual job openings held exclusively by only one interviewer.

We observed such a situation in an office what was operating as part of a Job Bank. The account interviewer style was not the official policy and there was no division of interviewers by occupations code or by any other breakdown; applicants were taken in turn by the next available interviewer. In this case there was an interviewer who did not like the Job Bank listing but preferred calling employers because, as he said, he knew what they were looking for. In fact, certain employers only hired applicants who were referred by this particular interviewer.

Is this use of job development good for that office or bad? There is no simple answer to that question because there is no clear pattern or standard to tell us how much or how little of this component activity is effective. Job development is a highly individual process, each interviewer performs this activity differently based upon their skills in relating to employers, their knowledge of the local labor market and the type of applicants they normally see. Performance standards aim at a level of assessment which might

APPLICATION TAKING (AT)

Unit: Applications Taken
Service Percent: New Applicants and Renewals
Total Traffic

O #	Unit Cost In Minutes	Percent Of Resources	Service Percent	Plcmnts/ equiv.pos. Time ladders -direct plcmnt time only-
1A	11.6	11.6	37.5	44.9
1B	13.6	7.9	22.2	43.0
1C	21.3	14.7	34.0	55.2
1D	7.7	4.2	47.4	35.6
2A	15.7	14.5	46.9	28.6
2B	16.6	13.9	26.7	6.7
3A	11.5	8.2	44.0	45.8
3B	13.2	7.3	41.1	35.6
4A	15.3	11.2	15.3	20.2
4B	19.3	11.4	28.1	18.1
4C	11.8	9.5	33.3	21.1
4D	18.3	10.0	30.7	
5A	10.8	11.9	28.0	55.1
5B	16.4	14.2	26.1	15.8
[illegible]	11.4	4.4	61.6	35.2
[illegible]	10.3	10.0	44.7	28.1

diagnose underuse or overuse of the activity; the individual performance of job development can only be judged in the context of the entire office operation.

In the Table below we have summarized some of the data collected in this survey pertaining to job development. It seems clear that job development receives quite different emphasis among these offices. Although we did not perform correlation analysis on this table we can observe that high performance (in terms of placements per equivalent position of direct placement effort) is not tightly associated with emphasis upon job development. Four offices show job development placement exceeding 20% of total placements; these all also achieve placement productivity (column 4) above the average for the group in the survey. However, several offices in the group achieve relatively high performance without much use of job development. Perhaps those offices with low performance and very low utilization of job development (underlined in this Table might consider increasing their emphasis upon this activity.

4. Extra paperwork may occur when two separate counts of referrals, job orders, or placements are maintained.

One objective of our project is to develop efficient and effective models of the employment placement process. These models will offer alternative approaches to the placement process in many offices - alternatives that are more efficient. These alternatives will achieve improved efficiency because they will eliminate redundant and unnecessary tasks.

In our survey we attempted to identify such tasks, particularly in connection with computer-generated lists. These lists are often suspect, particularly in cases where a manual system has been replaced by a computer system; one often finds personnel maintaining the old manual system until they are convinced that the computer-generated lists contain the same information. While this practice is defensible during the implementation stage, it is not an efficient practice on a continual basis when two lists are separately compiled and cover identical transactions. They should be identical; however, to make sure that they are identical a reconcilement process is often employed. The effort needed to compile two lists of the same thing is itself often redundant. The work required to reconcile the two lists results in additional burdens.

An example of this type of redundant paper work was observed by our team in one implementation of the Job Bank. The referrals to job openings were recorded on the back of the Job Orders directly from the referral forms (508's) and later these job orders were used to verify the referrals.

Table of Job Development Utilizations in LO's Surveyed

1	2	3	4	5
% Resources Devoted to Job Dev.	Job Dev. Attempts / Total Traffic (%)	Job Dev. Plcmnt / Total Plcmnts (%)	Placements/Equiv. Pos. of Direct Plant Activity (Time Ladders Data)	Minutes/Job Dev. Attempts
1.4	3.8	5.2	44.9	14.5
1.4	11.4	6.9	55.2	6.3
1.6	6.0	3.3	43.0	10.0
0.9	6.0	5.5	35.6	7.7
0.8	5.1	16.6	6.7	10.5
4.6	37.3	35.2	35.8	8.0
1.2	9.9	28.4	35.6	10.7
2.7	29.8	28.2	45.8	5.9
0.4	1.8	7.7	24.8	10.0
2.1	5.8	6.5	21.4	9.1
0.7	2.3	6.2	20.1	14.0
1.2	5.7	10.4	23.9	9.9
0.9	2.1	2.1	55.1	10.2
0.2	0.08	2.4	15.8	7.5
0.8	6.3	11.8	28.1	10.0
2.7	19.7	26.8	35.2	10.5

The Job Bank system produced a computer listing of these same job orders and the referrals made to the openings on them. This computer list was then compared to the manually compiled list on the back of each order and a reconcilement made between the two. Discrepancies were traced and resolved. Thus, two separately compiled lists were maintained. The reconcilement effort required a skilled and resourceful clerk who spent approximately three-quarters (3/4) of her time on this task. The computer-generated list served only to check the manually compiled list; it had no other operational function in this office. The same information was contained on both lists. Discrepancies when finally resolved were minor.

This office uses the MODS system which automatically checks the registration of applicants being referred. Occasionally two individuals are assigned the same SSN through error, and the ESARS system rejects one of the registrations. Correcting such rejections might pay off in keeping an up-to-date ESARS file, but in this office, errors have been allowed to accumulate in the file and the task of reconciling "duplicate" SSN's is behind schedule. Duplicate SSN's are found when an individual is referred to a job opening. The Job Bank computer list is considered to be suspect and is not used for verification.

We recommend that reconcilement occur when the duplicate SSN is first detected in the MODS system (at the time of registration) instead of waiting until a referral to a job opening occurs. By following that practice manual recording of referrals on the back of the job orders and use of those order forms for verification would be unnecessary. The convenient turn-around documents available in the Job Bank System could then be used for verification. The skillful clerk who now traces discrepancies could be used to keep all duplicate SSN's out of the ESARS files instead of only those detected upon referral to a job opening. She would be doing less redundant work.

5. A non-Job Bank urban area can be measured with our instruments.

The criteria for selection of locations for our study was that offices surveyed would be willing to cooperate and would represent a variety of types of ES operations. San Francisco, the largest non-Job Bank area in the ES system, provided a test of our methodology in a city that did not use a Job Bank. We were able to administer our survey instruments in three local offices and two central order taking offices. The data was comparable to other locations but we observed some shortcomings of the COT (Central Order Taking) system compared to Job Bank.

The Bay Area is interlaced with freeways and good roads resulting in long commuting distances from home to work. The highly urbanized SMSA extends from Marin County at the northern end of the Bay to San Mateo at the southern end. Bordering San Mateo on the south is the San Jose SMSA, an area so similar that one does not notice any change while driving through the region. For workers who own an automobile, a job opportunity almost anywhere in the Bay Area is within commuting distance.

To serve this large area the California Department of Human Resources has 25 local offices located throughout the San Francisco-Oakland SMSA. The SMSA has no automated Job Bank but the manual methods used are similar to those used in automated Job Banks. Central Order Taking offices (COT) receive employer orders; teletypes, which are installed in every local office, are used to disseminate the job orders; they are transmitted on a "broadcast" basis to all the LO's in the COT's area as soon as the order is taken. At the receiving local office the orders are mounted on a board at the front of the office where applicants can scan them (address and employer name are not included in the copy supplied for applicant review). Referrals are controlled by calling the COT when an applicant is ready to be referred.

In the Bay Area a number of Central Order Taking (COT) offices serve a segment of the LO's so that almost all the offices are covered (there are some offices such as San Mateo not served by any COT). The COT controls job orders and referrals in a manner similar to the Job Bank; however, there is this difference: the COT relies entirely upon manual techniques. The number of LO's that can be handled manually is limited because a manual tally of referrals is maintained on copies of the job orders.

We believe that the number of people needed in a Job Bank will be approximately the same as the present COT requirements. The COT in Oakland, which serves 10 LO's required 28 people and the other COT we surveyed, San Francisco, uses 26 people and serves 7 LO's. While the requirements for an areawide Job Bank cannot be closely estimated by our team, we can get a rough idea of the personnel requirements from the experience of other Job Banks; for example, the Dallas Job Bank serves 16 LO's and requires 50 people and the San Jose Job Bank has 33 people and serves 9 LO's.

Although we believe there will be a small savings in personnel through Job Bank, we think a more important advantage of Job Bank will be the enhanced service to the ES applicants in the Bay Area. The extended range of openings in all local offices will more nearly meet the needs of the highly mobile population in those communities. For those local offices such as San Mateo, presently excluded from the (COT) system, the change will result in a dramatic extension.

of the list of openings. The San Mateo office would also benefit from the ancillary services such as Employer Services associated with a central order-taking operation such as Job Bank, since, under the pressure of increased applicant load and staff cuts, that office is not presently making ES visits to the employers in the area.

6. A detailed study of the time distribution system is needed to assess its accuracy as a management tool, particularly as a support for diagnostic and prescriptive analysis designed to improve local office performance.

We surveyed local offices to test a methodology that would answer such questions as: How much work does it take to perform the placement process? Why do some ES operations accomplish more than other places, although the staff resources are almost equal in both?

It is essential to know the actual inputs to the placement process before any steps can be taken to improve productivity. The time distribution system might be used if it really told us what is going into the placement process; but more study is needed before we can confidently rely upon this data source. For example, measurements we took in one office showed 14.3 equivalent positions devoted to the placement process; however, the monthly time distribution reports on the same component activities showed 19.2 equivalent positions. This difference causes the placement process to appear less productive in the time distribution system than we found through our time ladder methodology. The examples below, taken from two offices in the survey, show typical discrepancies between the reports to the two measures of work.

The contrast between time reported in our survey (time ladders) and cost accounting is illustrated in the following table of Monthly Placement Productivity (placement transactions per equivalent position). Productivity is computed by dividing the ESARS total of monthly placement transactions for each office by the number of equivalent positions (positions are derived from time ladders and from cost accounting as described in each column heading). If both recorded time equally, column 1 and 2 would be identical.* In most cases, cost accounting shows lower productivity than the time ladder figures. We would expect this since we found that non-placement time is frequently reported under cost accounting as a 500 function code - direct placement activity.

---

*There is some error of measurement caused by the difference in measurement period used (time ladders is a weekly sample, cost accounting is monthly). We checked some offices for this error where we had time distribution sheets for the period of our visit. Differences between time ladder and cost accounting followed the differences exhibited by this Table; we conclude that the table cannot be explained by the error of measurement.

Job Title	Time Distribution*	Time Ladders*
Counselor	5 - 512 3 - 531	2 - non-placement ½ - 511 2½ - 512 3 - 531
Emp Intvw	2 - 511 1 - 514 (WIN) 1 - 531 (WIN) 2 - 511 2 - 531	4 - WIN ½ - non-placement 2 - 511 1½ - 531
Unit Supv	4 - 511 4 - 531	2½ - ESARS revisions 1 - 511 3½ - 531 1 - personal
Counselor	4 - 512 4 - 531	½ - 511 1½ - 512 6 - 531
Supv	2 - 512 5 - 553 ½ - 554 ½ - 561	½ - 554 4 - 610 ½ - non-placement 3 - 553
Ver	2 - 511 3 - 531 1 - 561 1 - 554 1 - 610	6½ - 531 1 - 554 ½ - 511
Manpower Aide Intv	1 - 511 7 - 531	3 - 511 2½ - 531 ½ - paperwork 2 - personal
Order Taker	8 - 531	5 - 531 2 - paperwork 1 - personal (lunch)

*(note: hours - time code)

Table of Monthly Placement Productivity (Placements/Equiv. Positions)

LO#	① Plcmnts/ equiv.pos. (Time ladders -direct plcmnt time only-)	② Plcmnts/ equiv.pos. (cost acctng -500 code only-**)	③ Plcmnts/ equiv.pos. (cost acctng*)	④ State avg. Plcmnts/ equiv.pos. (based on data used in FY75 BPF)
1A	44.9	25.8	24.8	22.2
1B	43.0	28.3	21.4	
1C	55.[illegible]	31.0	23.8	
1D	35.6	22.0	22.9	
2A	35.8	21.4	19.2	14.1
2B	6.7	5.10	4.4	
3A	45.8	45.4	36.3	27
3B	35.6	28.1	28.0	
4A	19.2	16.0	11.4	24.8
4B	18.1	18.9	13.5	
4C	21.1	21.3	12.1	
4D	24.8	22.0	22.3	
5A	55.1	46.91	44.5	22.6
5B	15.8	16.3	13.8	
6A	35.2	19.7	17.3	16.5
6B	28.1	20.2	17.4	

*Includes all 205 time plus central Job Bank or COT time allocated to the local office on the basis of its fraction of total equiv. positions in the entire area served by the centralized operation.

**Adjusted for holiday time.

We believe that managers need some tool that accurately measures the work done in each component activity. Time distribution appears to conflict with our findings of work done. We believe that the time ladder methodology is more accurate because it is tied to a measurable quantity for each activity period; this tends to make the staff member think about the activity time being reported. We also believe that time distribution misses some of the important management issues because the 531 time is not broken down into finer categories. The 531 code accounts for approximately 50% of the resources directly devoted to placement and 6 of the 13 component activities comprising the placement process.

6A. In assessing local offices that operate in a Job Bank environment certain functions otherwise performed in the office are done at the Job Bank Central and should be accounted for through an allocation process.

Job Banks normally centralize some of the local office ES functions such as order taking and verification. The placement process component activities which we measure for Performance Standards occur, in the case of Job Banks, in two locations: the local office and the central office. An allocation scheme is required to account for each office's share of the central office activities that are otherwise part of the placement process in the local office. The following is an approach we consider usable for this problem:

a. In each local office, assign a code to each staff member, by primary function: managerial, professional, clerical, and support.

b. Within each relevant geographic area allocate Job Bank (and other significant functions) staff to each local office based on LO share of professional staff in total area. (Could be allocated on professional, support, and managerial if detailed data is available.....)

In the metropolitan areas where Job Banks have been installed, the allocation scheme will include order taking and verification, but outside those areas these activities are generally not centralized even when there is a Job Bank. Most non-metro local offices in a Job Bank system take their own orders (for example, Hattiesburg, Mississippi), do their own verification and all their own referral control. The only shared activity carried out in the Job Bank Central for those cases [illegible] falls into the same type of support as general filing; it is an overhead function (code 610 in the Cost Accounting System).

Columns 3 and 4 of the Table of Monthly Placement Productivity compare the placement transactions productivity as used in the BPF for the state with the equivalent measure computed for each local office in our survey. The state measures were taken from the BPF calculation and the local office measures were taken from the time distribution report 03 in the CA system. Column 3 uses all ES Grants equivalent positions for the local office plus a share of the Job Bank or COT (Central Order Taking office) where the office is served by such a centralized facility. The allocation we used was based upon the fraction of total equivalent positions located in that office compared to the entire area served (all positions were included to compute the allocation: ES and non-ES). Other suggestions have been advanced for making this allocation; i.e., fraction of total referrals made by each office, or fraction of total placements made. Both suggestions allocate the central facility more closely to workload but they are much less stable than allocating total staff. We believe more consideration is needed before deciding that some allocation method must be used if comparisons of local offices are to have any meaning. An office which is supported by activities in a centralized facility such as Job Bank is obviously not comparible to one that receives no support, unless some account of resource utilization is made.

However, this problem only exists where the ES has a number of offices in an urban area. For those situations perhaps the best approach is to study the labor area as a whole. This suggestion was made at the start of our study by one of the participating agencies in their response to the Steering Committee meeting held last June. As our work proceeded the validity of that suggestion was clearly demonstrated. We propose that the actual survey for establishing Performance Standards follow that method.

The methodology would require data from each office to provide the equivalent ES positions devoted to placements in the entire area. These would include all district support positions, all Job Bank or other centralized positions, and the ES equivalent positions in the local offices. Time ladder data reflecting the direct and indirect placement activity would be collected -- the labor area would be treated as a unit.

If desired, local offices within the labor area also can be analyzed. Comparisons between local offices in the same area would not require allocation of the centralized functions since they both receive equal support from the central operation. The allocation question arises when one of these local offices is compared to some office in another area or is compared to a performance standard.

Local offices that are not in the same labor area can be compared (we show such offices in the Table of Monthly Placement Productivity); however we strongly suggest that is not how Performance Standards should be established.* Local offices in urban centers should be treated as part of a labor area and the entire labor area should be studied.

6B. Local office productivity can be expressed as Monthly Placement Transaction for Equivalent Position Worked if the data used has been adjusted for holiday time.

Our methodology measures local office performance during a one-week survey but expresses productivity as Monthly Placements per Equivalent Position**. Two basic assumptions are made in presenting productivity in this form:

1 - Monthly ESARS placement transactions reflect the same process as that observed during the survey week.

2 - The equivalent positions devoted to each activity have not changed during the month; i.e., the survey was substantially representative of the entire month.

The survey week must be representative of normal local office operations to satisfy these assumptions. If unusual conditions occur, that are expected to change the performance of the office the survey should be rescheduled. An unusual condition of this type occurred in one location because our study took place during election week. The Employment Service was open all day but the state gave each employee one half day off. We had expected that all time off would be taken on Election Day; however, some individuals took the one-half holiday on other days of the week. Thus, during the week of our survey one-half day was a holiday although the exact time taken varied. We would have preferred to simply count the survey data on days when no state holiday applied. Unfortunately we could not do this, therefore we decided to adjust our weekly survey data by reducing the standard hours for the week from 40 hours to 36 hours.

---

*In some cases we did not compute service percentages for such local offices [illegible] no meaning unless all the local offices in the area were surveyed.

**Equivalent Positions - Actual hours worked/available working hours for the period.

Every full time individual had 36 hours available for work on any activity in that week; therefore, we adjusted for the 4 hours of holiday by dividing all time by 36 hours to get equivalent positions (in a "normal" week we would use 40 hours). This adjustment follows from the definition of equivalent positions; i.e., the number of people who could do the reported work if they each put full time into the activity.

The Cost Accounting System should also be adjusted for holidays if comparable productivity is desired. We made this adjustment to compute the figures in column 2 of the Monthly Placements Productivity Table. Holiday hours are deducted from standard hours and the result is used as the available hours for computing equivalent positions. This adjustment removes the effects of holidays to satisfy assumption 2 above; equivalent positions devoted to each activity are based on the working days in the month - no holidays. After this adjustment the survey week and the monthly equivalent positions have a common base.

We believe that the Cost Accounting System correctly states the equivalent positions paid for each activity but that it understates the equivalent positions worked. For example, November had 168 weekday hours including 12 holiday hours (Thanksgiving and Election Days). A full-time person could not possibly put more than 156 hours into any activity without going into overtime hours. The two numbers (equivalent positions paid and equivalent positions worked) are close but they are not equal; for November the difference is 12/168 = 7.15%. Therefore, the productivity figure is 7.15% higher because no adjustment for holidays has been made to convert equivalent positions paid into equivalent positions worked. This artifact of the computation method should be eliminated before office or state comparisons are made.

C. Reference Charts of Compiled Survey Data

The charts and tables that follow are based on data collected in our study-week survey of 19 local offices in 6 states, and in some cases, on ESARS data. Following our visits to the first 13 offices, we manually tallied the time ladders and questionnaires. After the second 6 offices were surveyed, on a self-application basis, we manually tallied the questionnaires, but processed the time ladders via a computer program. Therefore, the data in the following tables is displayed in similar formats, with differences ascribed to typing vs. computer printout.

Tables are grouped as follows:

1. Summaries of data for LO's visited:
   - a. Study-Week Time Ladder Data Summary Placement/Non-Placement Data
   - b. Placements/Equivalent Positions
2. LO Summary, for each LO(19) visited:
   - a. LO Summary, Report 1

     Breakdown of LO activities, each represented in terms of total minutes spent (in the study week), total quantity processed, unit cost calculated, percent of total office time resource, and service percent.
   - b. LO Analysis of Non-Placement Time, Report 2

     Breakdown of LO Non-Placement (X) time, each category represented in terms of total minutes spent, and percent of total time.

Note: Table of Service Percent Formulas for Local Offices and for Labor areas.

3. Activity Summary, for each ES(13) activity reviewed:

a. Activity Summary:

Analysis of activity from LO to LO in terms of unit cost calculated, percent of resource, service percent and placements/equivalent position.

b. Activity Quality Analysis:

Analysis of quality factor from L.O. to L.O. Question responses from staff, applicant, employer, L.O. Manager are displayed.

1. Summaries of data for LO's visited:

STUDY WEEK TIME LADDER DATA SUMMARY

PLACEMENT/NON-PLACEMENT DATA

LO #	# DAYS STUDY	TOTAL MIN.*	PLCMT. MIN.	NON-PLCMT. (X) MIN.	PLCMT. %	NON-PLCMT. (X) %	TIME LADDER # PLCMT.-EQUIV. POS.**	TIME LADDE # NON-PLCMT EQUIV. POS
1A	5	44,094	26,182	17,912	59.4	40.6	10.9	7.5
1B	5	71,075	34,130	36,945	48.0	52.0	14.2	15.4
1C	5	72,289	39,994	28,295	60.7	39.3	16.65	11.8
1D	5	32,385	17,025	15,360	52.6	47.4	7.1	6.4
1E-X	5	47,165	33,650	13,515	71.3	28.7	14.05	7.0
1F-X	5	36,255	13,715	12,540	65.5	34.5	9.86	5.2
2A	5	38,153	22,261	15,892	58.3	41.7	11.6	8.3
2B	5	29,196	12,966	16,230	44.4	55.6	5.4	6.8
3A	5	91,785	52,123	39,662	56.8	43.2	21.75	16.5
3B	5	58,087	21,187	36,900	36.5	63.5	8.8	15.4
4A	4.5	87,459	62,209	25,250	71.1	28.9	28.8	11.7
4B	4.5	51,550	32,690	18,860	63.4	36.6	15.1	8.7
4C	4.5	32,150	17,670	14,480	55.0	45.0	8.2	6.7
4D	5	32,495	19,045	13,450	58.6	41.4	7.9	5.6
4E-X	4.5	74,540	57,290	17,250	76.9	23.1	26.5	8.0
5A	5	26,415	14,340	12,075	54.3	45.7	6.0	5.0
5B	5	15,623	6,238	9,385	39.9	60.1	2.6	3.9
6A	5	211,800	114,236	107,564	49.2	50.8	47.6	44.8
6B	5	47,255	25,845	21,410	54.7	45.3	10.8	8.9

---

* PLACEMENT+NON-PLACEMENT (X), excluding Lunch.

** 1 PLACEMENT EQUIVALENT POSTION = Total Placement Minutes/2400 (if 5 days) (1920 if 4 days, 2160 i 4.5 days). Calculation based on 8 Hours per day Placement Activity = 480 minutes = 2400 minutes pe 5 day week.

1 NON-PLACEMENT EQUIVALENT POSITION = Total Non-Placement Minutes/2400 (if 5 days).

NOTE: X Time includes JB in some LO's.

TABLE - PLACEMENTS/EQUIVALENT POSITIONS

-USING TIME LADDER DIRECT PLACEMENT TIME ONLY-

LO #	ESARS DATA	PLACEMENTS[1]	EQUIVALENT POSITIONS-[2]	PLACE [illegible] EQUIV [illegible]
1A	10/74	485	10.9	4[illegible]
1B	10/74	610	14.2	43.0
1C	10/74	918	16.7	55.2
1D	12/74	253	7.1	35.6
2A	10/74	332	11.6	28.6
2B	12/74	36	5.4	6.7
3A	10/74	995	21.8	45.8
3B	12/74	313	8.8	35.6
4A	11/74	582	28.8	20.2
4B	11/74	274	15.1	18.1
4C	11/74	173	8.2	21.1
4D	12/74	196	7.9	24.8
5A	10/74	329	6.0	55.1
5B	12/74	41	2.6	15.8
6A	10/74	1671	47.6	35.2
6B	12/74	304	10.8	28.1

NOTE 1: PLACEMENTS: ESARS TABLE 90, LINE 90090
FOR MONTH OF STUDY WEEK

NOTE 2: EQUIVALENT POSITIONS: SEE TABLE -
TIME LADDER PLACEMENT MINUTES/MINUTES FOR 1 EQUIVALENT POSITION